This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal and Industrial permit. The discharge results from the operation of a 0.0015 MGD wastewater treatment plant and a concrete acid-washing facility with a maximum flow of 0.004 MGD. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Smith-Midland Corporation P.O. Box 300 Midland, VA 22728	SIC Code :	4952 WWTP 3272 Concrete Products
	Facility Location:	5119 Catlett Road Midland, VA 22728	County:	Fauquier
	Facility Contact Name:	Wesley Taylor	Telephone Number:	(540) 439-3266
	Facility E-mail Address:	wtaylor@smithmidland.com		
2.	Permit No.:	VA0084298	Expiration Date of previous permit:	5/1/2016
	Other VPDES Permits associated with this facility:		VAG110298 (Concrete GP)	
	Other Permits associated with this facility:		Air Permit Registration No. 40486; Waste EPA ID VAR000502880	
	E2/E3/E4 Status:	NA		
3.	Owner Name:	Smith-Midland Corporation		
	Owner Contact/Title:	Wesley Taylor	Telephone Number:	(540) 439-3266
	Owner E-mail Address:	wtaylor@smithmidland.com		
4.	Application Complete Date:	10/29/2015		
	Permit Drafted By:	Anna Westernik	Date Drafted:	9/7/2016
	Draft Permit Reviewed By:	Caitlin Shipman	Date Reviewed:	9/12/2016
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	9/21/2016
	Public Comment Period :	Start Date:	End Date:	

5. Receiving Waters Information: See **Attachment 1** (Flow frequency information and 401 Certification of Germantown Lake)

Receiving Stream Name :	Licking Run	Stream Code:	1A-LIL
Drainage Area at Outfall(s):	16.7 square miles	River Mile:	Outfall 001; 5.58/Outfall 002; 5.53
Stream Basin:	Potomac River	Subbasin:	Middle Potomac
Section:	7a	Stream Class:	III
Special Standards:	g	Waterbody ID:	VAN-A17R/PL37
7Q10 Low Flow:	0.0046 MGD	7Q10 High Flow (Dec-Apr):	0.59 MGD
1Q10 Low Flow:	0.0023 MGD	1Q10 High Flow (Dec-Apr):	0.44 MGD
30Q10 Low Flow:	0.027 MGD	30Q10 High Flow:	1.0
Harmonic Mean Flow:	Not available	30Q5 Flow:	0.075 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

X	State Water Control Law		EPA Guidelines
X	Clean Water Act	X	Water Quality Standards
X	VPDES Permit Regulation	X	Other (Occoquan Policy)
X	EPA NPDES Regulation		

7. Licensed Operator Requirements: Class III

8. Reliability Class: Class 1

9. Permit Characterization:

X	Private	X	Effluent Limited		Possible Interstate Effect
	Federal	X	Water Quality Limited		Compliance Schedule Required
	State		Whole Effluent Toxicity Program Required		Interim Limits in Permit
	POTW		Pretreatment Program Required		Interim Limits in Other Document
X	TMDL	X	e-DMR Participant		

10. Wastewater Sources and Treatment Description:

a. Outfall 001 (Sewage Treatment Plant)
Wastewater generated from the operations at Smith-Midland enters two septic tanks (one at the engineering building and one at the office building) and then flows to an aerated equalization tank. Secondary treatment takes place in two 1000-gpd Multi-Flow package plants operating in parallel. Disinfection occurs after secondary treatment via a tablet chlorinator and a chlorine contact tank. Post-aeration occurs directly after chlorination. A tablet feeder is used for dechlorination. Sampling of Outfall 001 occurs directly after dechlorination.

See **Attachment 2** (schematic of sewage treatment plant).

b. Outfall 002 (Concrete Acid Washing Process)
Washing and acid etching of the finished concrete product is conducted on a sloped concrete pad in an outdoor area of the Smith-Midland property behind the two concrete manufacturing buildings (southwestern portion of the property). The concrete product is either washed with water only, acid etched and washed with hot water, or sandblasted. High-pressure washing removes the superficial layer of cement and sand. The concrete is sprayed with hydrochloric acid dispensed through an injection pump to further etch the surface. Some forms are painted with rollers. All paint products are disposed of as solid waste. Nothing from the painting process is discharged. Effluent created from these washing operations is discharged to a series of three concrete vaults for treatment.

The first concrete vault acts as a settling basin for concrete fines. The second vault contains a pH probe and an automatic chemical feed pump to add caustic soda (HCO_3) to neutralize the discharge. The third vault will act as a clarification basin to collect any remaining solids. The third vault discharges via Outfall 002 to Licking Run approximately 0.05 miles downstream of Outfall 001.

See **Attachment 3** (schematic of concrete acid washing process).

See **Attachment 4** (NPDES Permit Rating Worksheet).

TABLE 1 – Outfall Description				
Outfall Number	**Discharge Sources**	**Treatment**	**Design Flow/ Max 30-day Flow**	**Outfall Latitude /Longitude**
001	Municipal Wastewater	See Item 10 above.	0.0015 MGD	38° 36' 29" -77° 42' 47"
002	Concrete Acid Washing Process	See Item 10 above.	0.004 MGD	38° 36' 27.4" -77° 42' 44.7"
See **Attachment 5** for Midland Topographic Map (DEQ #195C)				

11. Sludge Treatment and Disposal Methods:

a. Outfall 001
Sludge is generated in the Multi-Flo units. Approximately 1,000 gallons is removed each quarter from the units and transported to the Massaponax WWTF (VA0025658) for further treatment and management. The septic tanks are pumped every two to three years.

b. Outfall 002
Solids generated by the acid-washing process are removed from the vaults and disposed of in an approved location (e.g., a landfill).

12. Discharges in Waterbody VAN-A17R

TABLE 2 VPDES PERMITS IN WATERBODY VAN-A17R		
Permit Number	**Facility Name**	**Receiving Stream**
Individual Permits		
VA0058793	Warrenton Town WTP	Warrenton Reservoir, UT
VA0027278	Pearson ES	Cedar Run
Single Family Homes General Permits		
VAG406188	Cruikshank Donald Residence	Mill Run, UT
VAG406437	Coates Moses Residence	Licking Run, UT
VAG406192	Swanson Neil and Linda - Residence	Mill Run, UT
VAG406102	Winston Melvin Residence	Cedar Run, UT
VAG406190	LaPrade Page Residence	Mill Run, UT
VAG406581	Maddox Michael P. Residence	Mill Run, UT
Storm Water Industrial General Permits		
VAR051086	Quarles Petroleum - Warrenton Bulk Plant Truck Stop	Licking Run, UT
VAR051470	Fauquier County Solid Waste Management Facility	Turkey Run, UT
VAR051470	Fauquier County Solid Waste Management Facility	Mill Run
VAR051017	Warrenton Fauquier Airport	Licking Run, UT
VAR051017	Warrenton Fauquier Airport	Marsh Run, UT
VAR052310	R.C. Hawkins Construction Co. Gainesville Topsoil	Walnut Run, UT
Concrete General Permits		
VAG110298	Smith Midland Incorporated	Licking Run
VAG110298	Smith Midland Incorporated	Licking Run, UT
VAG110234	M.E. Concrete Products	Licking Run, UT
Non-Metallic Mineral Mining General Permits		
VAG840098	Vulcan Construction Materials LLC - Sanders	Turkey Run Creek
VAG840098	Vulcan Construction Materials LLC - Sanders	Turkey Run, UT
Petroleum General Permits		
VAG830036	Quarles Petroleum – Warrenton Bulk Plant Truck Stop	Licking Run

13. Material Storage:

Materials Stored at Outfall 001:
The materials listed below are stored in the maintenance building.

1. A minimum of one 5-gallon bucket of chlorine tablets.
2. A minimum of one 5-gallon bucket of sodium bisulfite tablets.

Materials Stored at Outfall 002:
1. One 1,500 gallon bulk container of Hydrochloric Acid BE20 stored undercover.
2. One 800 gallon double walled container of Sodium Hydroxide stored outside the test building.

Depiction of Chemical Storage at Facility

14. Site Inspection:

Performed by Lisa Janovsky on May 19, 2016 (see **Attachment 6).**

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data
Outfalls 001 and 002 discharge to Licking Run. DEQ ambient water quality monitoring station 1aLIL001.43 is located at Route 616, approximately 4.05 miles downstream from Outfall 001 and approximately four miles downstream from Outfall 002. The following is the water quality summary for Licking Run, as taken from the 2014 Integrated Report:

Class III, Section 7a, special standards g.

DEQ monitoring stations located in this segment of Licking Run:

- ambient water quality monitoring station 1aLIL001.43, at Route 616

E. coli monitoring finds a bacteria impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for the Licking Run watershed has been completed and approved. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

Waterbody Name	Impaired Use	Cause	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the 2014 Integrated Report						
Licking Run	Recreation	*E. coli*	Cedar Run and Licking Run Bacteria TMDL 7/06/2004	2.61E+09 cfu/year *E. coli*	126 cfu/100 ml *E. coli* --- 0.0015 MGD	---

Significant portions of the Chesapeake Bay and its tributaries are listed as impaired on Virginia's 303(d) list of impaired waters for not meeting the aquatic life use support goal, and the 2014 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report indicates that much of the mainstem Bay does not fully support this use support goal under Virginia's Water Quality Assessment guidelines. Nutrient enrichment is cited as one of the primary causes of impairment. EPA issued the Bay TMDL on December 29, 2010. It was based, in part, on the Watershed Implementation Plans developed by the Bay watershed states and the District of Columbia.

The Chesapeake Bay TMDL addresses all segments of the Bay and its tidal tributaries that are on the impaired waters list. As with all TMDLs, a maximum aggregate watershed pollutant loading necessary to achieve the Chesapeake Bay's water quality standards has been identified. This aggregate watershed loading is divided among the Bay states and their major tributary basins, as well as by major source categories (wastewater, urban stormwater, onsite/septic agriculture, air deposition). Fact Sheet Section 17.e provides additional information on specific nutrient monitoring for this facility to implement the provisions of the Chesapeake Bay TMDL.

The full planning statement is found in **Attachment 7**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Licking Run, is located within Section 7a of the Potomac River Basin and is a Class III water.

Class III waters must achieve a D.O. of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C, and maintain a pH of 6.0-9.0 standard units (S.U.) at all times.

Some water quality criteria are dependent on the temperature and pH or total hardness of the receiving stream and/or the final effluent. These values were utilized to determine the criteria found in **Attachment 8a** (Freshwater Water Quality Criteria/Wasteload Allocation Analysis) for the following pollutants:

1) pH and Temperature for Ammonia Criteria (Outfall 001 – Municipal Discharge):
Since the discharge is to a free-flowing perennial stream, both the 90th percentile pH and temperature stream and effluent data are used to calculate ammonia criteria and limits. The 90th percentile temperature and pH values are used because they best represent the critical flow conditions of the receiving stream.

Staff evaluated both the 90th percentile pH and temperature of the receiving stream at Ambient Monitoring Station 1aLIL001.43 on Licking Run for the period of January 2014 to December 2014 (located approximately 3.9 miles downstream of Outfall 002) and the pH Discharge Monitoring Report data from June 2011 to June 2016. The 90th percentile stream pH and temperature values for the January 2014 through December 2014 period were found to be 7.6 S.U. and 22°C, and the 90th percentile pH derived from Discharge Monitoring Reports (DMRs) from June 2011 through June 2016 obtained from the maximum monthly pH readings was 8.2 S.U. (see **Attachment 9**). DMR temperature data was not available for review—default temperature values of 25°C and 15°C were used to determine ammonia criteria.

The calculated pH values for the receiving stream and effluent were not significantly different than the 90th percentile pH values of 7.8 S.U. and 7.9 S.U., respectively used to determine ammonia criteria in the previous permit reissuance. The receiving stream temperature value of 22 ° C is not significantly different than the temperature value of 23° C used to

determine ammonia criteria for the last permit reissuance. Therefore, the pH and temperature values used in the previous permit reissuance to calculate ammonia criteria shall be used with this permit reissuance also.

2) Total Hardness for Hardness-Dependent Metals Criteria:
There is no hardness data for either this facility or the receiving stream. DEQ guidance suggests using a default hardness value of 50 mg/L CaCO3 for streams east of the Blue Ridge.

3) Bacteria Criteria:
The Virginia Water Quality Standards at 9VAC25-260-170A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 ml)	126

[1]For a minimum of four weekly samples [taken during any calendar month].

d. Receiving Stream Special Standards
The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Licking Run, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of g.

Special Standard "g" refers to the Occoquan Watershed policy (9VAC25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new sewage treatment plants and only allows minor industrial discharges.

e. Threatened or Endangered Species
The Virginia DGIF Fish and Wildlife Information System Database was searched on March 16, 2016 for records to determine if there are threatened or endangered species in the vicinity of the discharges. The following threatened or endangered species were identified within a 2-mile radius of the discharge: the Dwarf Wedgemussel, the Northern Long Eared Bat, the Upland Sandpiper, the Loggerhead Shrike, Henslow's Sparrow, the Green Floater, and the Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharges.

On August 26, 2016, Susan Lingenfelser from the U.S. Fish and Wildlife Service made the following comment regarding this permit reissuance: "The federally listed endangered Dwarf Wedgemussel (Alasmidonta heterodon) is known in the area. Looking at the DMRs, there were some instances when TSS was above limits, which is a concern. However, provided the project applicant adheres to the effluent limitations and monitoring requirements specified in the permit, we do not anticipate the re-issuance of this existing permit to result in adverse impacts and we have no further comment. Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered."

On August 31, 2016. the Virginia Department of Game and Inland Fisheries stated, "Provided adherence to the permit conditions, we do not anticipate the re-issuance of this permit to result in adverse impact to resources under our purview." See **Attachment 10** for a comment summary.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

Sampling from monitoring station 1ALIL001.43 downstream of the discharge shows that with the exception of fecal coliform bacteria, measured parameters are above the Virginia Water Quality Standards. Per DEQ guidance, impairment due to fecal

coliform is not used to make a tier determination. Thus, Licking Run in the vicinity of the discharge from Outfalls 001 and 002 is considered to be a Tier 2 water. No significant degradation to the existing water quality will be allowed. No significant lowering of water quality is to occur when permit limits are based on the following:

- The dissolved oxygen in the receiving stream is not lowered more than 0.2 mg/L from the existing levels;
- The pH of the receiving stream is maintained within the range 6.0-9.0 S.U..;
- There is compliance with all temperature criteria applicable to the receiving stream;
- No more than 25% of the unused assimilative capacity is allocated for toxic criteria established for the protection of aquatic life; and
- No more than 10% of the unused assimilative capacity is allocated for criteria for the protection of human health.

The antidegradation policy also prohibits the expansion of mixing zones to Tier 2 waters unless the requirements of 9VAC25-260-30.A.2 are met. The draft permit is not proposing an expansion of the existing mixing zone.

Although the discharge from this facility is to a Tier 2 water as described above, the sewage treatment plant was constructed in 1991 (prior to the March 30, 1992 adoption of the Virginia Water Quality Standards by the State Water Control Board). Thus, the limits for ammonia and TRC in this permit reissuance are based on existing use protection or Tier 1 wasteload allocations. If this sewage treatment plant were to expand or were to be replaced, limits would be calculated based on the Tier 2 water quality described above considering the baseline established in this permitting action. The Water Quality Criteria and Antidegradation Wasteload Allocations can be found in Attachment 8b.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration values is greater than the chronic WLA. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening:
Review of the data from June 2011 through June 2016 shows violations of Outfall 001 TSS concentrations in February 2014, November 2014, and January 2015. Violations of the TSS concentration at Outfall 002 occurred in August 2015 and January 2016. D.O. violations occurred at Outfall 001 in October 2014 and at Outfall 002 in October 2015.

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent. Since Outfall 001 is discharge from a sewage treatment plant with chlorine disinfection, wasteload allocation (WLA) analyses for ammonia and total residual chlorine are required.

b. Mixing Zones and Wasteload Allocations:
WLAs are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{Co\,[\,Qe + (f)(Qs)\,] - [\,(Cs)(f)(Qs)\,]}{Qe}$$

Where:
WLA = Wasteload allocation
Co = In-stream water quality criteria
Qe = Design flow
f = Decimal fraction of critical flow from mixing evaluation

Qs = Critical receiving stream flow
(1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
Cs = Mean background concentration of parameter in the receiving stream.

The Water Quality Standards contain two distinct mixing zone requirements. The first requirement is general in nature and requires the "use of mixing zone concepts in evaluating permit limits for acute and chronic standards in 9VAC25-260-140.B". The second requirement is specific and establishes special restrictions for regulatory mixing zones "established by the Board".

The Department of Environmental Quality uses a simplified mixing model to estimate the amount of mixing of a discharge with the receiving stream within specified acute and chronic exposure periods. The simplified model contains the following assumptions and approximations:

- The effluent enters the stream from the bank, either via a pipe, channel or ditch.
- The effluent velocity isn't significantly greater (no more than 1 - 2 ft/sec greater) than the stream velocity.
- The receiving stream is much wider than its depth (width at least ten times the depth).
- Diffusive mixing in the longitudinal direction (lengthwise) is insignificant compared with advective transport (flow).
- Complete vertical mixing occurs instantaneously at the discharge point. This is assumed since the stream depth is much smaller than the stream width.
- Lateral mixing (across the width) is a linear function of distance downstream.
- The effluent is neutrally buoyant (e.g. the effluent discharge temperature and salinity are not significantly different from the stream's ambient temperature and salinity).
- Complete mix is determined as the point downstream where the variation in concentration is 20% or less across the width and depth of the stream.
- The velocity of passing and drifting organisms is assumed equal to the stream velocity.

If it is suitably demonstrated that a reasonable potential for lethality or chronic impacts within the physical mixing area doesn't exist, then the basic complete mix equation, with 100% of the applicable stream flow, is appropriate. If the mixing analysis determines there is a potential for lethality or chronic impacts within the physical mixing area, then the proportion of stream flow that has mixed with the effluent over the allowed exposure time is used in the basic complete mix equation. As such, the wasteload allocation equation is modified to account for the decimal fraction of critical flow (f).

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a WWTP treating sewage and total residual chlorine may be present since chlorine is used for disinfection. Total residual chlorine may be present at Outfall 002 due to the use of hydrochloric acid in the acid-washing process. **Attachment 8** details the mixing analysis results and WLA derivations for these pollutants.

c. Effluent Limitations Toxic Pollutants
9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges. Since the flows from both the sewage treatment plant and industrial acid-washing operation are intermittent, only acute criteria were used to calculate permit limits.

1) Ammonia as N:
The pH and temperature values used in the previous permit reissuance to calculate ammonia criteria shall are used in permit reissuance also [see Section 15.c 1) of this fact sheet]. As was the case in the previous permit reissuance, ammonia limits were found to not be needed since the wasteload allocations are significantly greater than the expected effluent ammonia levels (see **Attachment 11**).

For facilities such as this that are not designed to nitrify, an ammonia concentration of approximately 10 mg/L average and 25 mg/L maximum is expected. For purposes of evaluating the need for ammonia effluent limitations, it was assumed that

one data value of 9.0 mg/L exists. This data point results in an expected value of 9.0 mg/L and a 97th percentile value of approximately 21.9 mg/L. It represents the Department's best estimate of the expected statistics for ammonia in this type of effluent.

The Environmental Protection Agency (EPA) finalized new, more stringent ammonia criteria in August 2013; possibly resulting in significant reductions in ammonia effluent limitations. It is staff's professional judgment that incorporation of these criteria into the Virginia Water Quality Standards is forthcoming. This facility and others may be required to comply with new criteria in this permit term or during their next permit term.

The receiving stream is assessed as Tier 2; however, the ammonia limits (no limits required) are based upon Tier 1wasteload allocations since the sewage treatment plant at this site has been in existence prior to the advent of the original Virginia Water Quality Standards (see Section 16 of this fact sheet). However, due to the newly proposed EPA ammonia criteria discussed above, the sewage treatment plant shall be required to monitor for ammonia monthly. Additionally, a reopener clause has been added to this permit to allow staff to add an ammonia limit during the permit cycle if deemed necessary.

2) Total Residual Chlorine:
Chlorine is used for disinfection and is potentially in the discharge from Outfall 001. Since hydrochloric acid is used in the acid-washing process and the water supply is occasionally chlorinated, chlorine is also present in the discharge from Outfall 002.

Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. Since a reasonable potential exists for both Outfall 001 and 002 to discharge simultaneously, a probability exists for violating the antidegradation baseline if each outfall were assigned a TRC limit based on flow from that outfall alone. To ensure adequate protection of the receiving stream, the flows from each outfall (the average flow of Outfall 001 and the Maximum 30-Day Value of Outfall 002) were combined to determine the TRC WLAs (see **Attachment 8**). The calculations show that monthly average and weekly average TRC concentrations of 0.013 mg/L and 0.016 mg/L are proposed for Outfall 001, and TRC monthly average and maximum daily limit concentrations of 0.013 mg/L and 0.027 are proposed for Outfall 002. These limits will replace the monthly average, weekly average, and maximum limits of 0.015 mg/L, 0.018 mg/L, and 0.031 found in the previous permit, since an incorrect expected value was used in the calculation of the TRC limits in the previous permit (see **Attachment 11**).

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants
No changes to D.O., biochemical oxygen demand-5 day (BOD_5), total suspended solids (TSS), and pH limitations are proposed. However, influent BOD_5 and TSS monitoring have been added at an annual frequency to measure the effectiveness of the treatment facility.

1) D.O. and BOD_5 limits are based on the stream modeling conducted in July 1990 (**Attachment 12**) and are set to ensure that the receiving stream D.O. does not decrease more than 0.2 mg/L to meet the requirements of the antidegradation policy.

2) It is staff's practice to equate the TSS limits with the BOD_5 limits. TSS limits are established to mirror BOD_5 limits since the two pollutants are closely related in terms of treatment of domestic sewage.

3) pH limitations are set at the water quality criteria.

4) *E. coli* limitations are in accordance with the Virginia Water Quality Standards at 9VAC25-260-170 and comply with the TMDL approved by EPA on July 6, 2004.

e. Effluent Limitations and Monitoring, Outfall 002 – Conventional and Non-Conventional Pollutants
No changes to the TSS, Chemical Oxygen Demand (COD), D.O., temperature, and Total Petroleum Hydrocarbon (TPH) limits are proposed. The limits for TSS, COD, pH, and TPH mirror those in the Concrete Product Facilities General Permit.

1) The monthly average TSS limit of 30 mg/L and the maximum limit of 60 mg/L are required and the effluent will be monitored for TDS to limit adverse effects to the receiving stream from concrete washing.

2) COD monitoring and D.O. limits are being required to determine the oxygen-consuming capacity of the effluent. The minimum D.O. limit of 6.0 mg/L for Outfall 002 coincides with the minimum D.O. limit for Outfall 001.

3) pH limits are required to limit adverse effects to the receiving stream from hydrochloric acid or caustic soda. The limits in this permit are in accordance with the Virginia Water Quality Standards at 9VAC 25-260-50.

4) Temperature requirements are necessary due to the potential for heating of water after acid washing. The maximum temperature requirement corresponds with the Virginia Water Quality Standards for non-tidal water in the coastal and piedmont zones (9VAC25-260-50).

5) Total Petroleum Hydrocarbons (TPH) monitoring is required because the concrete forms are lubricated prior to use.

f. Effluent Annual Average Limitations and Monitoring--Nutrients
Non-significant dischargers are subject to aggregate wasteload allocations for Total Nitrogen (TN), Total Phosphorus (TP), and sediments under the TMDL for the Chesapeake Bay. Monitoring for TN, TP and TSS is required in order to verify the aggregate wasteload allocations. Nutrient monitoring requirements are being added to Outfall 001 of this permit reissuance to fulfill this requirement. TSS limits are already present in this and other sewage treatment plant permits. Additionally, monitoring for TSS is already required at the industrial Outfall 002.

g. Groundwater Monitoring
A review of December 2007 to June 2016 groundwater data from monitoring wells in the concrete-washing area was conducted. An increase in total dissolved solids (TDS) and conductivity was observed in Monitoring Well #3. See **Attachment 13** for the groundwater monitoring summary. Groundwater monitoring shall continue to be required at a semi-annual frequency for the parameters shown in Part I.A.3 of this permit, and DEQ will require the submittal of a Corrective Action Plan to ensure that the groundwater quality does not degrade further.

f. Effluent Limitations and Monitoring Summary:
The effluent limitations are presented in the following table. Limits were established for BOD_5, TSS, pH, D.O., TRC, and *E. coli* at Outfall 001. Additionally, monitoring for flow, nitrate-nitrite, Total Kjeldahl Nitrogen (TKN), TN, TP, Influent BOD5, and Influent TSS will be required at Outfall 001

Limits were established for TSS, pH, TRC, D.O., temperature, and TPH at Outfall 002. Additionally, monitoring for flow, TDS, and COD will be required.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD_5 and TSS (or 65% for equivalent to secondary). This permit requires influent BOD and TSS monitoring on an annual basis to demonstrate 85% removal.

18. Antibacksliding:
The TRC limits were calculated in the previous reissuance using the incorrect expected value. This resulted in monthly and weekly average limits of 0.015 mg/L and 0.018 mg/L. In conformance with the 9VAC25-31-220.L of the VPDES regulations and §402(o)(2) of the Clean Water Act, the TRC limits have been recalculated with the correct expected value. The TRC limits will be changed to monthly average and weekly average concentrations of 0.013 mg/L and 0.016 mg/L for Outfall 001, and monthly average and maximum daily limit concentrations of 0.013 mg/L and 0.027 for Outfall 002. The basis for changing the TRC limits is error. The backsliding proposed conforms to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, 9VAC 25-31-220.L. and 40 § CFR 122.44 and is consistent with DEQ practice and procedures.

19.a Effluent Limitations/Monitoring Requirements:
The Outfall 001 design flow is 0.0015 MGD for the municipal discharge.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH (S.U.)	1, 2	NA	NA	6.0	9.0	1/D	Grab
BOD_5 [a]	2, 4	25 mg/L 0.14 kg/day	38 mg/L 0.21 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS) [a, b]	3	25 mg/L 0.14 kg/day	38 mg/L 0.21 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (D.O.) (mg/L)	2, 4	NA	NA	6.0	NA	1/D	Grab
Ammonia, as N (mg/L)	2	NL	NL	NA	NA	1/M	Grab
E. coli (Geometric Mean) [c, d]	2, 5	126 n/100mls	NA	NA	NA	1/W	Grab
Total Residual Chlorine (TRC) (after contact tank, mg/L)	6	NA	NA	1.0	NA	1/D	Grab
TRC (after dechlorination, mg/L)	2	0.013	0.016	NA	NA	1/D	Grab
Nitrate+Nitrite, as N (mg/L)	7, 8	NL	NA	NA	NA	1/YR	Grab
Total Kjeldahl Nitrogen (TKN) (mg/L)	7, 8	NL	NA	NA	NA	1/YR	Grab
Total Nitrogen (mg/L) [e, f]	7, 8	NL	NA	NA	NA	1/YR	Calculated
Total Phosphorus (mg/L) [e]	7, 8	NL	NA	NA	NA	1/YR	Grab
Influent BOD_5 (mg/L) [a]	3	NL	NA	NA	NA	1/YR	Grab
Influent TSS (mg/L) [a]	3	NL	NA	NA	NA	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Water Quality Standards
3. Professional Judgment
4. 1990 Stream Model (**Attachment 12**)
5. Licking Run TMDL
6. DEQ Disinfection Guidance
7. Chesapeake Bay TMDL/WIP
8. Guidance Memo No. 14-2011 – Nutrient Monitoring for "Nonsignificant" Discharges to the Chesapeake Bay Watershed

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
1/D = Once every day.
1/M = Once every month.
1/W = Once every week.
1/YR = Once every calendar year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

a. At least 85% removal for BOD_5 and TSS shall be attained.

b. TSS shall be expressed as two significant figures.

c. Samples shall be collected between 10:00 a.m. and 4:00 p.m.

d. The permittee shall collect four (4) samples at least five (5) days apart during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period. Should any of the quarterly monitoring results for E. coli exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall be once per week for the remainder of the permit term.

e. Non-significant dischargers are subject to aggregate wasteload allocations for TN, TP, and sediments under the Total Maximum Daily Load (TMDL) for Chesapeake Bay. Monitoring of TN and TP is required in order to verify the aggregate wasteload allocations.

f. Total Nitrogen, which is the sum of TKN and Nitrite + Nitrate, shall be derived from the results of those tests.

19.b Effluent Limitations/Monitoring Requirements:

The Outfall 002 maximum flow of this Industrial Facility is 0.004 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
Total Suspended Solids (TSS, mg/L) [a]	1	30	NA	NA	60	1/W	Grab
Total Dissolved Solids (TDS, mg/L)	1	NA	NA	NA	NL	1/W	Grab
COD (mg/L)	1	NA	NA	NA	NL	1/M	Grab
pH (S.U.)	2	NA	NA	6.0	9.0	2/D [b]	Grab
Total Residual Chlorine (mg/L)	2	0.013	0.027	NA	NA	1/D	Grab
Dissolved Oxygen (mg/L)	1	NA	NA	6.0	NA	1/M	Grab
Temperature (°C)	2	NA	NA	NA	32 [c]	1/M	IS
TPH (mg/L) [d]	1	NA	NA	NA	15	1/M	Grab

The basis for the limitations codes are:
1. Professional Judgment
2. Water Quality Standards

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
IS = Immersion stabilization.

1/M = Once every month.
1/W = Once every week.
2/D= Twice per day.
1/D = Once every day.

Estimate= Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab= An individual sample collected over a period of time not to exceed 15-minutes.

a. TSS shall be expressed as two significant figures.
b. Sampling shall be conducted twice per day at four hour intervals during periods of discharge.
c. The maximum temperature of the discharge from Outfall 002 shall not exceed 32° C. The rise in natural temperature shall not exceed 3° C (9VAC25-260-60).
d. Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015C (2000) or EPA SW 846 Method 8015C (2007) for gasoline and diesel range organics, or by EPA SW 846 Methods 8260B (1996) and 8270D (2007).

19.c Groundwater Monitoring Requirements

Monitoring Point: Groundwater monitoring wells MW-BG and MW-3 or those or those groundwater monitoring wells indicated as part of the monitoring network by a revised Groundwater Monitoring Plan.

Effective Dates: During the period beginning with the permit effective date and lasting until the permit expiration date.

PARAMETER	BASIS FOR LIMITS	LIMITATIONS	MONITORING REQUIREMENTS	
			Frequency	Sample Type
Static Water Level (ft./in.) (Measured to the Nearest 0.01 ft.)	1	NL	1/6M	Measured
pH (S.U.)	1	NL	1/6M	Grab
Total Dissolved Solids (mg/L)	1, 2	NL	1/6M	Grab
Specific Conductance (µmhos/cm)	1	NL	1/6M	Grab

The basis for the limitations codes are:

1. Professional Judgment
2. 9VAC25 280-70 (State Water Control Board Groundwater Criteria)

Static Water Level = The static water level shall be measured prior to bailing the well water for sampling. At least three volumes of groundwater shall be withdrawn immediately prior to sampling each monitoring well.

NL = No limit; monitor and report.

S.U. = Standard units.

1/6M = Once every six months. The monitoring period is January 1 – June 30 and July 1 – December 31 of each year. The data is to be submitted by the 10th of January and July of each year.

20. Other Permit Requirements:

a. Part I.B. of the Permit Contains Additional Chlorine Monitoring Requirements, Quantification Levels and Compliance Reporting Instructions.
These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4 requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a PVOTW.

b. Indirect Dischargers. Required by the VPDES Permit Regulation at 9VAC25-31-200 B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. Operations and Maintenance (O&M) Manual Requirement. Required by the Code of Virginia at §62.1-44.19, the VPDES Permit Regulation at 9VAC25-31-190.E, and 40 CFR 122.41(e). The permittee shall maintain an O&M Manual that reflects current facility operations on site. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d. CTC, CTO Requirement. The Code of Virginia at § 62.1-44.19 and the Sewage Collection and Treatment Regulations at 9VAC25-790 require that all wastewater treatment works obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq., the VPDES Permit Regulation at 9VAC25-31-200 C, and the Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations at 18VAC160-20-10 et seq. requires licensure of operators. This operation of the sewage treatment plant requires a Class III operator.

f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a Reliability Class of I.

g. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

h. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act (CWA).

i. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2, and 420 through 720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works for domestic sewage.

j. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:

1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

a) One hundred micrograms per liter;

b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

c) Five times the maximum concentration value reported for that pollutant in the permit application; or

d) The level established by the Board.

2) That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

a) Five hundred micrograms per liter;

b) One milligram per liter for antimony;

c) Ten times the maximum concentration value reported for that pollutant in the permit application; or

d) The level established by the Board.

k. Materials Handling/Storage. 9VAC25-31-50.A. prohibits the discharge of any wastes into State waters unless authorized by a permit. The Code of Virginia at §62.1-44.16 and §62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

l. Paint Waste Disposal. Some concrete product is currently painted on site using rollers. All product is disposed of as solid waste. The permit shall be reopened to incorporate additional monitoring and and/or limits if it is found that the paint waste disposal procedure has changed (e.g., washing rollers and discharging waste to the sewage treatment plant).

m. Emergency Planning and Community Right-to-Know (EPCRA). Hydrochloric acid is regulated under EPCRA and is designated as a hazardous substance under the Clean Water Act. Releases of more than one pound of hydrochloric acid must be reported annually to DEQ-NRO and entered into the national Toxic Release Inventory (TRI).

n. Chemical Inventory Changes. The permittee shall notify the DEQ Northern Regional Office 90 days prior to use of any new chemicals on site. Upon notification, the Regional Office shall determine if this activity warrants a modification of the permit.

o. Solids Handling Plan. The washing of the concrete on site creates a large volume of solids. In 2002, a series of concrete tanks were installed to manage the solids. Additionally, the pH of the discharge is adjusted at this treatment unit. The solids volume created at times exceeded the ability of the facility to effectively remove the solids from the treatment unit.

In order to protect the dissolved oxygen concentration of the receiving stream and mitigate the total suspended and total dissolved solids discharged from Outfall 002, a Solids Handling Plan shall be submitted to DEQ-NRO within 90 days of this permit reissuance date and monitoring for TDS at Outfall 002 will be required. The approved Solids Handling Plan will be an enforceable part of the permit. Any future changes to the plan must be submitted for approval to DEQ-NRO within 90 days of said changes.

p. Groundwater Monitoring. Acid-washing may contaminate local groundwater. To ensure protection of the State Water Control Board Groundwater Criteria at 9VAC25 280-70 and the local groundwater supply, the permittee shall continue sampling and reporting groundwater monitoring in accordance with Part I.A.3 of the permit and the current Groundwater Monitoring Plan. The approved Groundwater Monitoring Plan is an enforceable part of the permit. Any future changes to the plan must be submitted for approval to DEQ-NRO within 90 days of said changes. A revised plan would supersede the current Groundwater Monitoring Plan.

q. Corrective Action Plan Requirement. During the last permit cycle, total dissolved solids and specific conductance levels have increased in Monitoring Well #3 (see **Attachment 13**). The permittee shall submit a corrective action plan to DEQ within 180 days of this permit reissuance date to prevent further groundwater contamination at this site. The approved Corrective Action Plan is an enforceable part of the permit.

r. Nutrient Reopener. 9VAC25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9VAC25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

s. Reuse of Industrial Wastewater. This facility will use settled wastewater with a pH adjusted between 6.0 S.U. and 9.0 S.U. for dust suppression and/or spraying stockpiles to prepare the concrete. None of the wastewater used in the reuse process shall enter state waters. Within 90 days of this permit reissuance, the permittee shall submit an amendment to their Operations and Maintenance Manual defining the reuse procedure and best management practices (BMPs) that will be used to control runoff. Other potential reuses for the settled industrial wastewater proposed during the permit cycle must be reviewed and approved by DEQ on a case-by-case basis prior to implementation and incorporation into the O&M Manual. Once approved, wastewater reuse procedures shall be an enforceable part of the permit.

t. Connection to Public Sewerage Facilities. The permittee must eliminate the discharge from the facility by connection to public sewer within 180 days of the date that the public sewerage facilities become available.

u. Closure Plan. A facility closure plan shall be submitted to DEQ-NRO within 90 days of this permit reissuance. Upon approval by DEQ, the facility closure plan shall become an enforceable part of the permit. Facility closure shall be coordinated with the DEQ Water Program Division and the DEQ Waste Division. Any changes in the practices and procedures for facility closure shall be documented in the Closure Plan within 90 days of the effective date of the changes.

v. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II.

Required by VPDES Regulation 9VAC25-31-190, Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:
1) A Water Quality Reopener Special Condition has been added.
2) A Nutrient Reopener Special Condition has been added.
3) A Chemical Inventory Changes Special Condition has been added.
4) A Corrective Action Plan Requirement Special Condition has been added.
5) A Closure Plan Special Condition has been added.
6) The Instream Monitoring Plan Special Condition has been removed.
7) A Solids Handling Plan Special Condition has been added.
8) A Reuse of Industrial Wastewater Special Condition has been added.

c. Monitoring and Effluent Limitations:
1) Nutrient monitoring has been added at Outfall 001.
2) Monitoring for ammonia has been added.
3) Annual influent monitoring for BOD and TSS has been added.
4) The TRC limits at both outfalls have been changed due to a calculation error (see Section 17.c. 2) of this fact sheet).

5) TDS monitoring has been added to Outfall 002.
6) Groundwater monitoring for total organic carbon has been removed.

24. Variances/Alternate Limits or Conditions: None

25. Public Notice Information:

First Public Notice Date: Second Public Notice Date:

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3827, anna.westernik@deq.virginia.gov. See **Attachment 14** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. Additional Comments:

Previous Board Actions: On October 11, 2001, the State Water Control Board approved a consent order for Smith-Midland. This order required construction of the new acid etching process wastewater treatment system, which is currently used at the facility. This order was closed on January 23, 2006.

Smith-Midland was referred to enforcement on October 12, 2006 for BOD, TSS, pH and fecal coliform exceedances at Outfall 001 and pH exceedances at Outfall 002, An Order was executed on September 26, 2007 and was terminated on September 24, 2008.

Smith-Midland was referred to enforcement on January 12, 2009 due to pH violations at both Outfall 001 and Outfall 002, an *E. coli* exceedance from Outfall 001, and TSS exceedances from Outfall 002.. The case was dereferred on September 8, 2009 due to compliance through informal action (the Outfall 002 treatment system at Smith-Midland was refurbished).

Smith-Midland was referred to enforcement on November 29, 2011 for failing to submit required in-stream monitoring results for dissolved oxygen and temperature in a timely fashion, failing to submit an updated O&M Manual in a timely fashion, and for failing to submit groundwater monitoring results on time. The case was dereferred on September 24, 2012 due to compliance through informal action.

Smith-Midland was referred to enforcement on June 9, 2014 for TSS violations at Outfall 001 and 002 and for failing to submit required in-stream monitoring results for dissolved oxygen and temperature in a timely fashion. DEQ-NRO staff has been actively monitoring the facility for compliance and the enforcement action is still currently open.

State/Federal Agency Comments: The Virginia Department of Health had no comments or objections to this reissuance. See Section 15.e of this fact sheet and **Attachment 10** for August 2016 comments from the Virginia Department of Game and Inland Fisheries and the U.S. Fish and Wildlife Service.

Staff Comments: None

Public Comment: No comments were received during the public notice period

Attachments

Attachment 1	Flow Frequency Information, 401 Certificate for Germantown Lake
Attachment 2	Schematic of Sewage Treatment Plant
Attachment 3	Schematic of Concrete Acid-Washing Process
Attachment 4	NPDES Permit Rating Worksheet
Attachment 5	Midland Topographic Map (DEQ #195C)
Attachment 6	May 19, 2016 Site Inspection
Attachment 7	Planning Statement
Attachment 8a	Tier 1 Water Quality Criteria, WLAs, and Mixing Zone Predictions
Attachment 8b	Tier 2 Water Quality Criteria, WLAs, and Mixing Zone Predictions
Attachment 9	90th Percentile Effluent pH and Instream pH and Temperature Values
Attachment 10	Comments from the U.S. Fish and Wildlife Service and the Virginia Department of Game and Inland Fisheries
Attachment 11	Derivation of Ammonia and TRC Limits for the 2011 and 2016 Permit Reissuance
Attachment 12	Stream Model dated July 1990
Attachment 13	Summary of Groundwater Data in Acid Washing Area (December 2007 to June 2016)
Attachment 14	Public Notice

Flows at Gauging Station 01656000 -- Cedar Run Near Catlett Virginia
Revised July 29, 2016 by Anna Westernik

Flow Value	CFS	MGD
1Q30	0.003	0.001939
1Q10	0.02	0.012926
HF1Q10	3.8	2.455940
7Q10	0.04	0.025852
HF7Q10	5.1	3.296130
30Q10	0.23	0.148649
HF30Q10	8.7	5.622810
30Q5	0.65	0.420095

Flow Value CFS MGD cfs x 0.6463 = MGD

High Flow Months are December through April

Period Used to Determine 1Q10, 7Q10, 30Q10 Flows: 1950-1986, 1989-2003 (Many Days of Zero Flow); 51 Climatic Years Total

Period Used to Determine Other Flows: 1950-1986, 1989-2003

(This gauge has been in operation from 1950 to 1986 and from 1989 to the present)

Drainage Area at the Gauging Station = 93.4 mi^2

Harmonic Mean not given.

Drainage Area at the Licking Run Discharge Point = 16.7 mi^2

The flow values at the discharge points are determined by drainage area proportions. Withdrawals, discharges, or springs are not addressed.

(DA Outfall/DA Gauge)Q at Gauge = Flow at Outfall

Flows at the Licking Run Discharge Points Outfalls 001 and 002 (Smith-Midland, Inc.)

Flow Value	MGD
1Q30	0.000347
1Q10	0.002311
HF1Q10	0.439124
7Q10	0.004622
HF7Q10	0.589351
30Q10	0.026579
HF30Q10	1.005363
30Q5	0.075113

The Fauquier County Recreation Department has a 401 Permit for their dam on Licking Run. The dam, located upstream of the discharge point, is required to maintain a minimum instream flow equivalent to the 7Q10 return frequency drought flow of Licking Run downstream of the dam.

COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD
2111 Hamilton Street

R. V. Davis
Executive Secretary

Post Office Box 11143
Richmond, Virginia 23230
(804) 257-0056

CERTIFICATE NO. 79-6013

401 CERTIFICATE
Issued To

County Administrator
Fauquier County
14 Main Street
Warrenton, Virginia 22186

PURSUANT TO SECTION 401, PUBLIC LAW 95-217

The State Water Control Board hereby certifies, subject to the conditions listed belo that the proposed construction of a multiple purpose impoundment structure in Licking Run near Midland, Fauquier County, as specified in the application submitted to the Board on February 28, 1979, and completed on September 16, 1980, and other correspond or communications supplied to the Board by the applicant, will comply with (1) the Virginia Water Quality Standards which became effective on 20 July 1970 and which are, as amended, in full force and effect under Section 303(a) of Public Law 95-217; (2) other applicable limitations, standards, regulations, and requirements established in accordance with the State Water Control Law (Title 62.1-44.2 through 62.1-44.34 of the Code of Virginia (1950), as amended). The Board further certifies that there are no other applicable promulgated effluent limitations or other limitations under Sectio 301, 302, and 303 and there is not an applicable standard under Section 306 or 307 of Public Law 95-217 presently in effect.

This Certification of Compliance is valid providing Fauquier County complies with the following conditions, limitations, and/or requirements:

1. That all work should be performed in a manner which results in minimizing the sedimentation of State waters.

2. That all denuded or fill areas associated with the construction or operation of the project should be provided with adequate ground cover or vegetation immediately upon completion of the project to arrest soil erosion.

3. That the release from the impoundment is subject to the following limitations:

   a. The Dissolved Oxygen concentration must be at least 4.0 mg/l and must have a daily average of 5.0 mg/l.

   b. pH must be at least 6.0 with a maximum of 8.5.

   c. The maximum allowable temperature shall be 32°C. The temperature of the release shall not exceed 3°C above the weekly average of the daily maximum downstream temperature prior to construction.

Attachment 1

d. Total dissolved solids shall not exceed 500 mg/l. A monitoring program to establish the data base for the temperature standard (3(c) above) should be implemented prior to construction. A plan detailing this program should be submitted to the Board for approval.

4. That the minimum release from the impoundment should be equivalent to the seven-ten-year return frequency drought flow of Licking Run.

5. That a vegetated buffer zone at least 50 feet in width should be maintained around the impoundment at all times.

6. That the procedures detailed in the "Best Management Practices Handbook for Hydrologic Modifications (State Water Control Board Planning Bulletin 319)" should be followed.

7. That the applicant shall submit for approval by the State Water Control Board an acceptable erosion and sedimentation control plan to be implemented during the construction and operation of the project. This plan must be submitted at least 90 days prior to construction.

8. In the event that a fish kill should occur in the impoundment and the suspected cause of the fish kill is determined by the State Water Control Board to be eutrophication, the applicant shall determine measures to mitigate the cause of the fish kill.

9. That the State Water Control Board's Northern Regional Office be notified when clearing or construction begins so that staff inspections of the project may be made.

10. The applicant shall immediately notify the Board of any modification of this project and shall demonstrate in a written statement to the Board that said modifications will not violate any conditions listed in this Certification. If such demonstration cannot be made, the applicant shall apply to the Board for a modification of this Certification.

11. In issuing this Certification, the Board has relied upon the statement and representation made by the applicant in their application and other correspondence or communications.

12. In issuing this Certification, the Board has not taken into consideration the structural stability of the proposed structure.

13. This Certification is subject to revocation for failure to comply with the above conditions and after proper hearing.

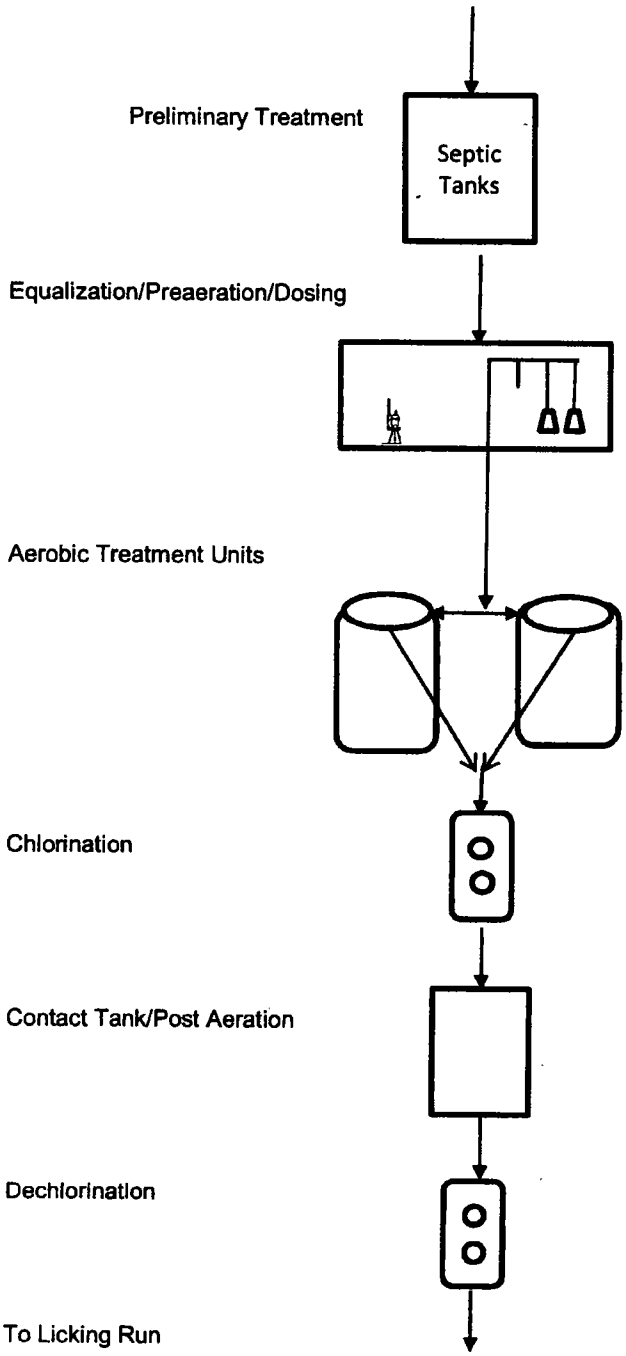
In addition, this Certification is issued with the understanding that, in accordance with the plans for the project, Fauquier County and their project contractor will not violate the Water Quality Standards as a result of a direct or indirect discharge of constructio material to State waters. It is further understood that any direct or indirect discharg of construction material from the proposed project to State waters will be subject to abatement and control under the State Water Control Law.

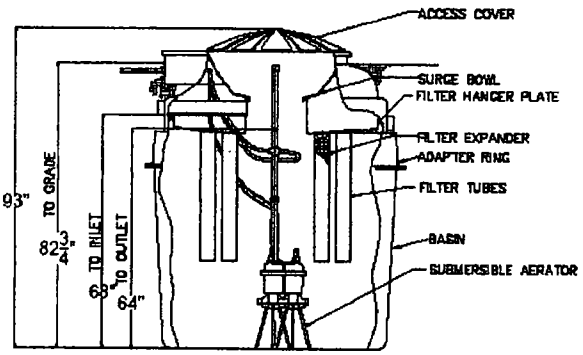
By: Raymond E. Bowles Date: 2-3-87
Raymond E. Bowles, P.E.-Director
Bureau of Surveillance & Field Studies

Acceptance of the above provisions and conditions is acknowledge by:

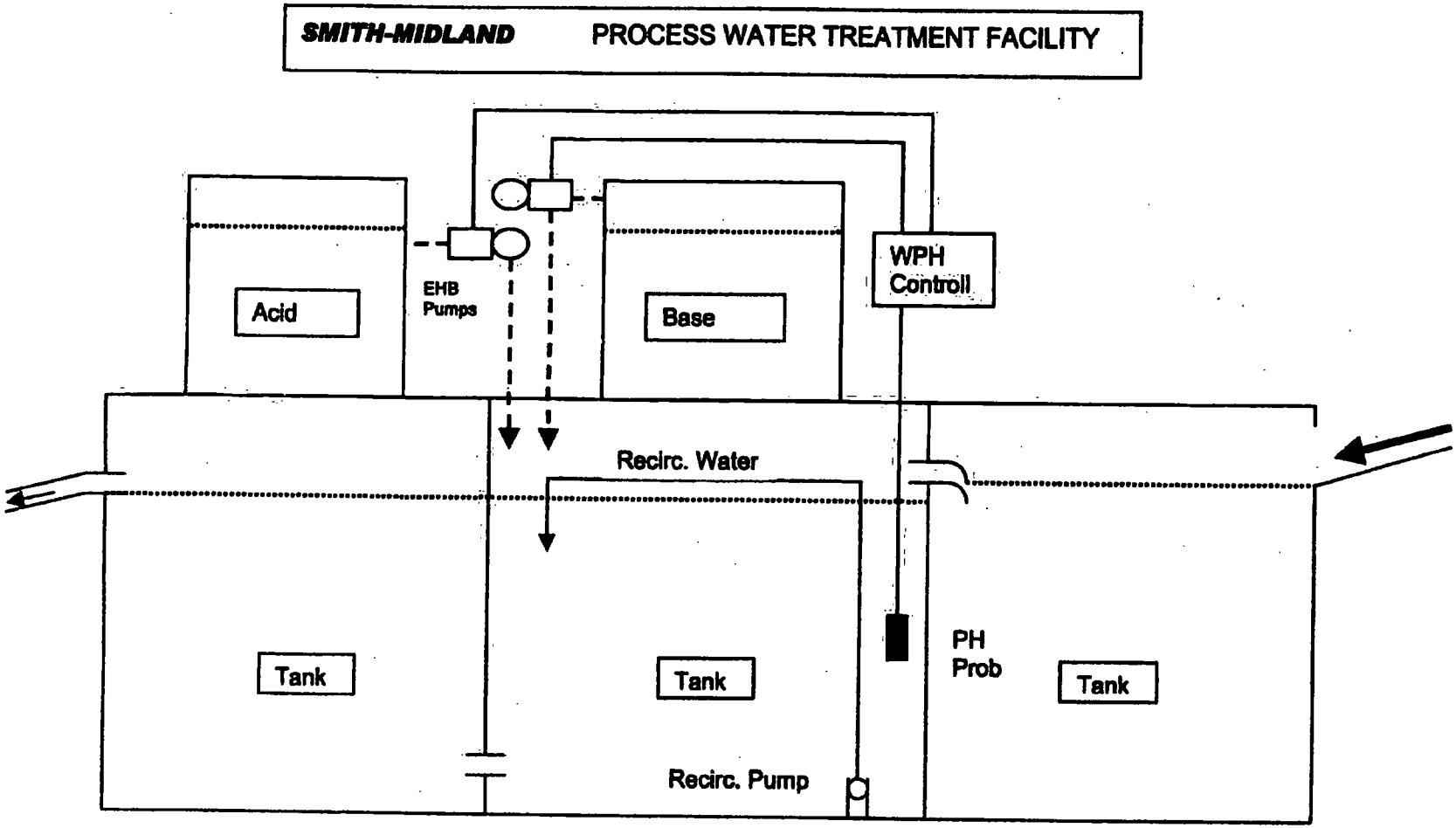
By: _____ Date: _____
Administrator, Fauquier County

Smith Midland
Domestic Wastewater STP



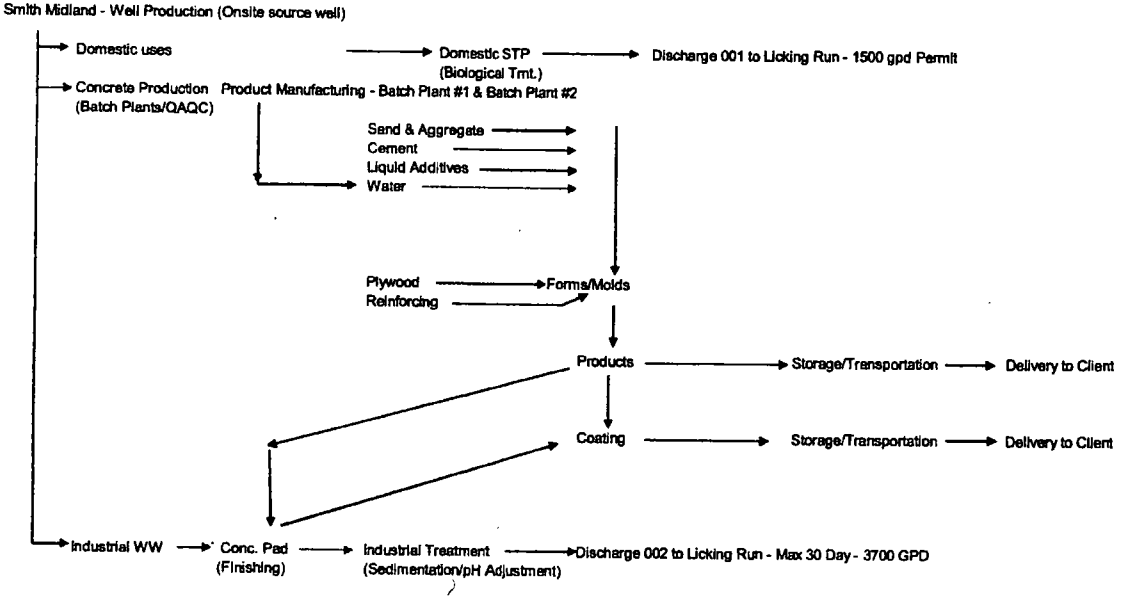


Attachment 2



Attachment 3

SMITH MIDLAND CORPORATION
LINE DIAGRAM OF WATER USE

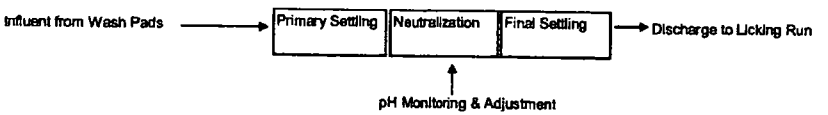


Outfall 002 Treatment/Flow Diagram - Industrial Waste Treatment

Product Finishing on Pads

Sand Blasting - Surface etching to enhance appearance - Does not generate wastewater
Water Wash - Removal of non-hardened superficial layer of cement to expose aggregate by high pressure water wash
Acid Wash - Using high pressure hot water wash and muriatic acid the surface is etched to create texture & aesthetic appeal

Treatment (Settling & Neutralization)



The water wash and acid wash are performed as production demands. Operations generally 5 days/week
All finishing operations are a function of "demand". The volumes/schedule may change based on sales.

NPDES PERMIT RATING WORK SHEET

- [ ] Regular Addition
- [ ] Discretionary Addition
- [X] Score change, but no status Change
- [ ] Deletion

VPDES NO. : VA0084298

Facility Name: Smith-Midland
City / County: Fauquier
Receiving Water: Licking Run
Reach Number:

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary Sic Code: 3272 Other Sic Codes:
Industrial Subcategory Code: 099 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	15	[ ] 7.	7	35
[X] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 1
Total Points Factor 1: 5

FACTOR 2: Flow/Stream Flow Volume

(Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[X]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 52
Total Points Factor 2: 20

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)		Code	Points
[X]	< 100 lbs/day	1	0
[ ]	100 to 1000 lbs/day	2	5
[ ]	> 1000 to 3000 lbs/day	3	15
[ ]	> 3000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
[x]	< 100 lbs/day	1	0
[ ]	100 to 1000 lbs/day	2	5
[ ]	> 1000 to 5000 lbs/day	3	15
[ ]	> 5000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)	*Nitrogen Equivalent*	Code	Points
[ ]	< 300 lbs/day	1	0
[ ]	300 to 1000 lbs/day	2	5
[ ]	> 1000 to 3000 lbs/day	3	15
[ ]	> 3000 lbs/day	4	20

Code Number Checked: N/A

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

[X] YES; (If yes, check toxicity potential number below)

[ ] NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1.
(Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	0	[ ] 7.	7	15
[X] 1.	1	0	[ ] 4.	4	0	[ ] 8.	8	20
[ ] 2.	2	0	[ ] 5.	5	5	[ ] 9.	9	25
			[ ] 6.	6	10	[ ] 10.	10	30

Code Number Checked: 1

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET
FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines or technology-based state effluent guidelines) or has a wasteload allocation been given to the discharge?*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 1 B 1 C 2

Points Factor 5: A 10 + B 0 + C 0 = **10**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 52

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.3

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.3 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay? **N/A**

	Code	Points
[ ]	1	10
[ ]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)? **N/A**

	Code	Points
[ ]	1	10
[ ]	2	0

Code Number Checked: A 4 B N/A C N/A

Points Factor 6: A 0 + B 0 + C 0 = **0**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	5
2	Flows / Streamflow Volume	20
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	35

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 35

OLD SCORE : 30

Permit Reviewer's Name : Anna Westernik

Phone Number: 703-583-3837

Date: July 29, 2016

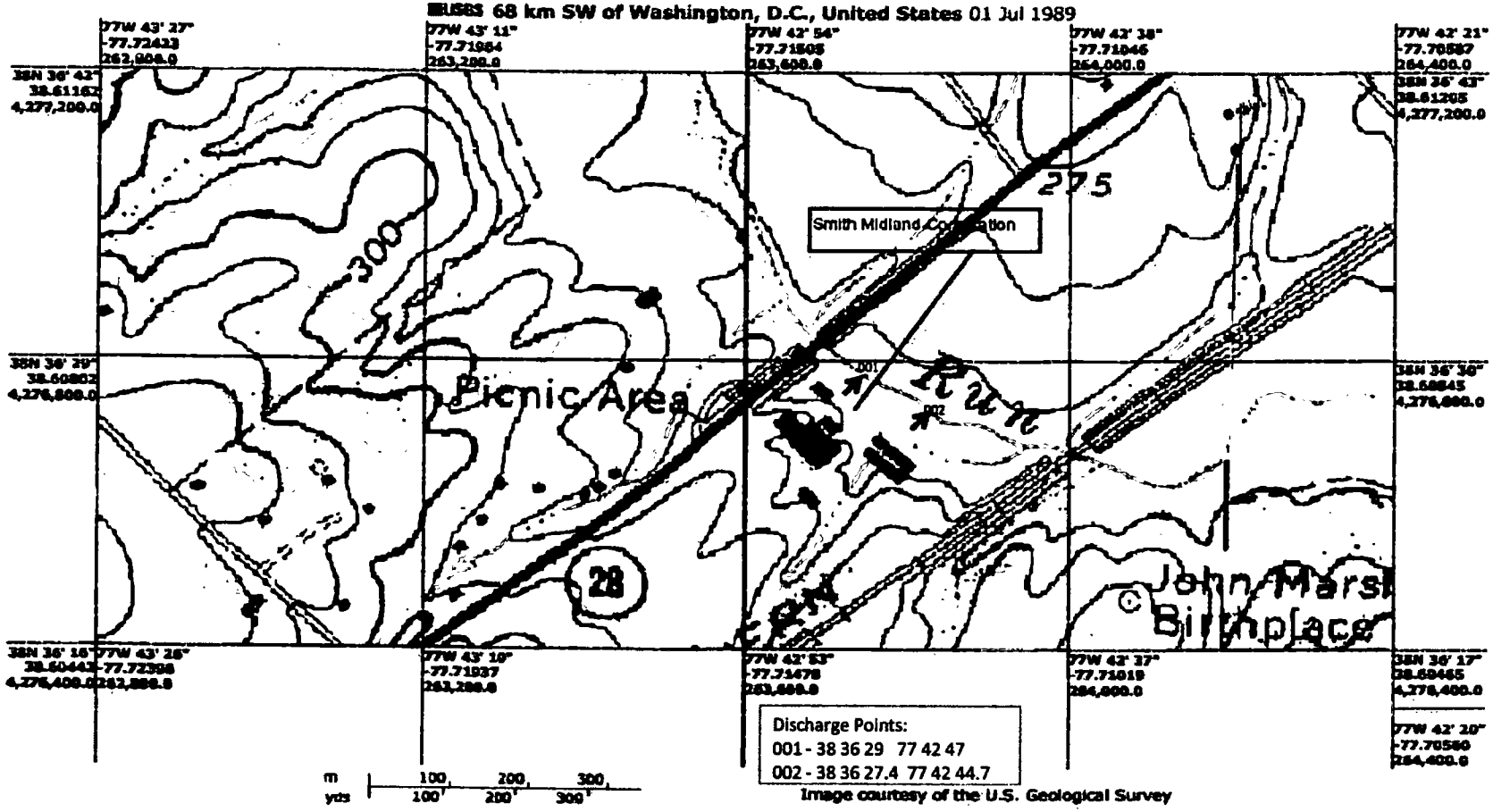


Image courtesy of the U.S. Geological Survey

Attachment 5

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN VIRGINIA REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

June 6, 2016

Mr. Wes Taylor
Smith Midland Corporation
P.O. Box 300
Midland, VA 22728

Re: **Smith Midland Corporation – Permit # VA0084298 Recon Inspection**

Dear Mr. Taylor,

Attached is a copy of the Site Inspection Report generated from the Facility Recon Inspection conducted at the Smith Midland Corporation on May 19, 2016. This letter is not intended as a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 et seq. (APA).

Please review the enclosed report and submit in writing adequate documentation of all measures taken (including all necessary supporting documentation) to address the Request for Corrective Action Section no later than July 6, 2016. Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3801 or by E-mail at lisa.janovsky@deq.virginia.gov.

Sincerely,

Lisa H Janovsky

Lisa Janovsky
Environmental Specialist II
Water Compliance Inspector
cc: Permits / DMR File,

Attachment 6

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: Smith Midland Corporation		**INSPECTION DATE:** May 19, 2016	
		INSPECTOR: Lisa Janovsky	
PERMIT No.: VA0084298		**REPORT DATE:** May 27, 2016	
TYPE OF FACILITY: ☑ Municipal ☐ Major ☐ Industrial ☐ Minor ☐ Federal ☑ Small Minor ☐ HP ☐ LP		**TIME OF INSPECTION:**	Arrival 11:30am / Departure 1:00pm
		TOTAL TIME SPENT (including prep & travel)	5 hrs
PHOTOGRAPHS: ☑ Yes ☐ No		**UNANNOUNCED INSPECTION?** ☑ Yes ☐ No	
REVIEWED BY / Date:			
PRESENT DURING INSPECTION: Mark Evans – DEQ; Andy East, Chet Gnagey, Leslie Borta, Mark Loscuda – Smith Midland			

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

- **Domestic Sewage Treatment Plant (STP) – Outfall 001**
  - DEQ arrived onsite at 11:30 am and met Andy East and Leslie Borta for an unannounced recon inspection.
  - Both multi-flow tanks were open and appeared to be functioning normally (**photos 1 & 2**). Mr. East stated that they have changed the detergents that are used in the buildings to environmentally friendly products. Ever since the change, he stated that the sewage treatment plant has been functioning better. Mr. East stated that he cleaned the filters approximately 6 months ago and they have not observed problems since then.
  - The chlorine contact tank and de-chlorination appeared to be functioning properly (**photo 3**).
  - The outfall was discharging at the time of our arrival. There was some foam in the receiving stream, but it was not apparent whether it was coming from the treatment plant or not (**photo 8**). The effluent after the de-chlorination appeared clear and odor free, so it is unlikely that it is coming from the plant itself.
  - There is still significant erosion at the outfall area. However, Smith Midland staff has placed large rip-rap along the outfall to help with erosion. Mr. East stated that they have plans to add additional rip-rap in the future.

- **Acid Wash Area – Outfall 002**
  - DEQ observed the acid washing area. The washing pad was caked with sediments and DEQ informed Mr. East that this area should be swept frequently to prevent solids build-up in the basins. Smith Midland staff has added a Filtrexx filter sock at the entrance of the first basin in place of the hay bales that were previously there.

- Mr. East stated that they are not acid washing as frequently as they have in the past. It is dependent on the type of finish the customers want and fluctuates based on client needs.
- While we were onsite, a staff member was hosing down large equipment near the basins with heated water. This appeared to be adding sediments to the area as well.
- The pH neutralization system appeared to be in good working order. All chemicals are contained and kept under cover.
- The sedimentation basins were cleaned out since the last visit in December 2015. The third basin did not have any observable solids on the surface (**Photo 6**).
- The first basin appeared to have less solids than the previous visit. Mr. East stated that they use a sludge judge to gauge the amount of solids built up in the tank. They clean out the basins when the solids get to be 70% full in the first basin.
- Mr. East stated that they are continuously monitoring and thinking about additional BMP and management strategies for this area.
- DEQ departed the facility at 1:00pm

EFFLUENT FIELD DATA:

Flow	____ MGD	**Dissolved Oxygen**	____ mg/L	**TRC (Contact Tank)**	____ mg/L
pH	____ S.U.	**Temperature**	____ °C	**TRC (Final Effluent)**	____ mg/L

Was a Sampling Inspection conducted? ☐ Yes (see Sampling Inspection Report) ☑ No

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☑ Shore based ☐ Submerged Diffuser? ☐ Yes
2. Are the outfall and supporting structures in good condition? ☑ Yes ☐ No
3. Final Effluent (evidence of following problems): ☐ Sludge bar ☐ Grease
   ☐ Turbid effluent ☑ Visible foam ☐ Unusual color ☐ Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☐ No
5. Receiving stream: ☑ No observed problems ☐ Indication of problems (explain below)

Comments: **Erosion of the stream bed occurring near outfall 001 (and 006 from VAG110298). There was some foam observed in the receiving stream.**

REQUEST for CORRECTIVE ACTION:

- **Permit VA0084298 Part II.D Duty to Provide Information states: "The permittee shall furnish to the department, within reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such**

plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state water, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit."

Observations: There was a lot of sediment build up near the acid washing area. Provide an explanation and timeline to DEQ as to how the sediment in this area will be maintained.

NOTES and COMMENTS:

- **Continue to minimize the solids buildup around the acid washing area and settling basins.**
- **Ensure that the O&M manual is current and up to date with any new practices or implementations.**
- **DEQ recommends increasing the cleaning and dredging frequency of the sedimentation basins.**
- **Continue to provide safe and direct access to all outfalls located onsite by maintaining shrubbery and grass in the surrounding area.**

Photo 1: Inside multi-flow tank #1

Photo 2: Inside multi-flow tank #2

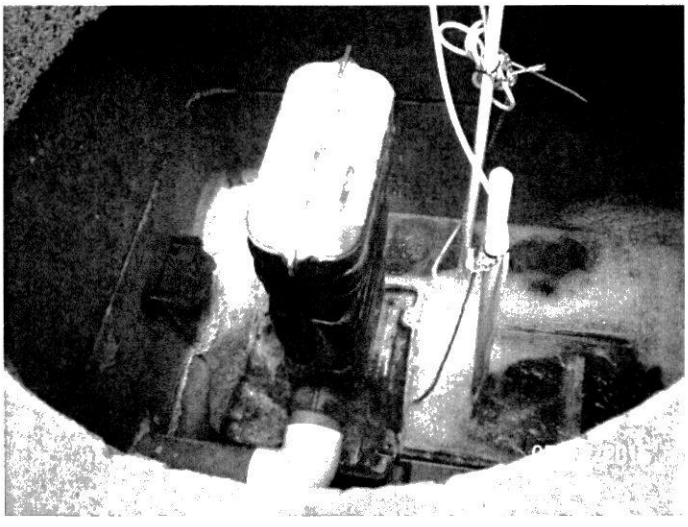


Photo 3: Chlorine contact tank

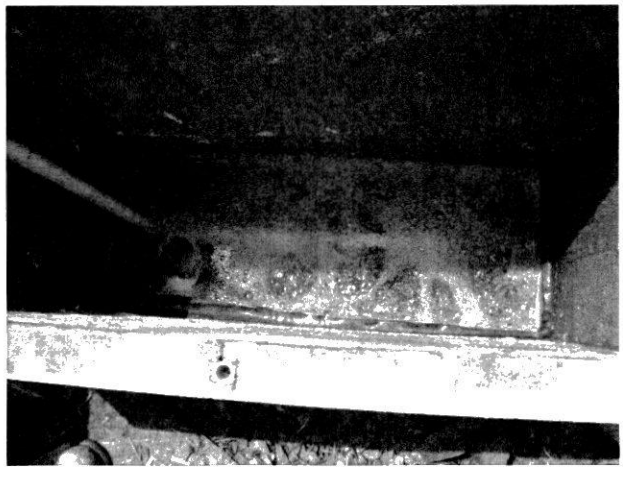


Photo 4: Sample Box – clear effluent

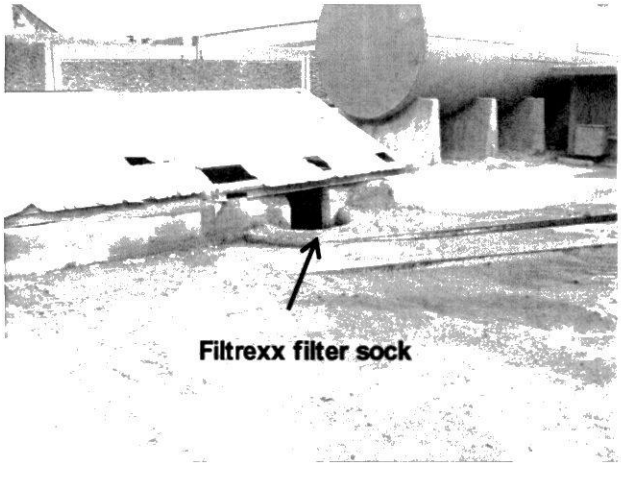


Photo 5: Acid washing area - sediments

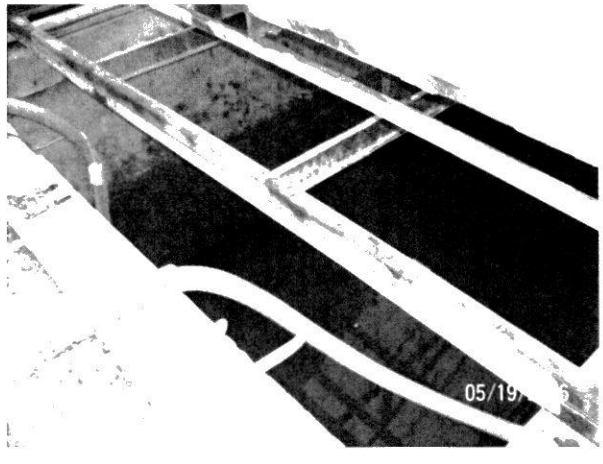


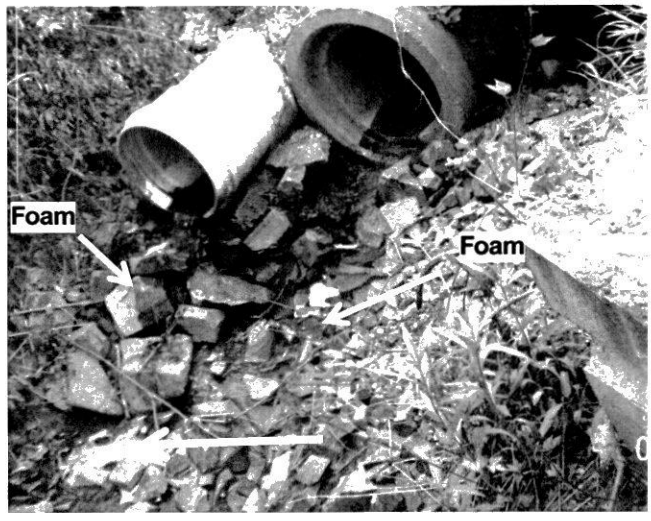
Photo 6: Acid wash area- basin #3 - no observable sediments.

Photos taken by: Lisa Janovsky

Layout by: Lisa Janovsky

Permit # VA0084297

May 19, 2016

	
Photo 7: Filtrexx filter socks	**Photo 8: Outfall 001 (photo cropped)**
Photos taken by: Lisa Janovsky	**Layout by: Lisa Janovsky**
Permit # VA0084298	**May 27, 2016**

To:	Anna Westernik
From:	Rebecca Shoemaker
Date:	November 23, 2015
Subject:	Planning Statement for Smith-Midland, Inc.
Permit Number:	VA0084298

Information for Outfall 001:

Discharge Type: Municipal
Discharge Flow: 0.0015 MGD
Receiving Stream: Licking Run
Outfall 001 Latitude / Longitude: 38° 36' 29" -77° 42' 47"
Rivermile Outfall 001: 5.58
Streamcode: 1A-LIL
Waterbody: VAN-A17R
Special Standards: Class III, Section 7a, special stds. g.
Drainage Area Outfall 001: 16.7 square miles

Information for Outfall 002:

Discharge Type: Industrial
Discharge Flow: 0.004 MGD
Receiving Stream: Licking Run
Outfall 001 Latitude / Longitude: 38° 36' 27.4" -77° 42' 44.7"
Rivermile Outfall 002: 5.53
Streamcode: 1A-LIL
Waterbody: VAN-A17R
Special Standards: Class III, Section 7a, special stds. g.
Drainage Area Outfall 001: 16.7 square miles

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   Outfalls 001 and 002 discharge to Licking Run. DEQ ambient water quality monitoring station 1aLIL001.43 is located at Route 616, approximately 4.05 miles downstream from Outfall 001 and approximately four miles downstream from Outfall 002. The following is the water quality summary for Locking Run, as taken from the Draft 2014 Integrated Report:

   Class III, Section 7a, special stds. g.

   DEQ monitoring stations located in this segment of Licking Run:
   - *ambient water quality monitoring station 1aLIL001.43, at Route 616*

   E. coli monitoring finds a bacteria impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for the Licking Run watershed has been completed and approved. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

Yes.

Table A. 303(d) Impairment and TMDL information for the receiving stream segment

Waterbody Name	Impaired Use	Cause	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the DRAFT 2014 Integrated Report						
Licking Run	Recreation	*E. coli*	Cedar Run and Licking Run Bacteria TMDL 7/06/2004	2.61E+09 cfu/year *E. coli*	126 cfu/100 ml *E. coli* --- 0.0015 MGD	---

3. Are there any downstream 303(d) listed impairments within 15 miles of this facility that are relevant to this discharge? If yes, please fill out Table B.

No.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes located within five miles of this discharge.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith Midland Outfall 001 Permit No.: VA0084298

Receiving Stream: Licking Run Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	23	deg C
90% Temperature (Wet season) =	15	deg C
90% Maximum pH =	7.8	SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0.0023	MGD
7Q10 (Annual) =	0.0046	MGD
30Q10 (Annual) =	0.0266	MGD
1Q10 (Wet season) =	0.4391	MGD
30Q10 (Wet season)	1.0054	MGD
30Q5 =	0.0751	MGD
Harmonic Mean =	0	MGD

Mixing Information

Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.9	SU
10% Maximum pH =		SU
Discharge Flow =	0.0015	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	5.1E+04	--	--	--	--	--	--	--	--	--	--	na	5.1E+04
Acrolein	0	--	--	na	9.3E+00	--	--	na	4.8E+02	--	--	--	--	--	--	--	--	--	--	na	4.8E+02
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	7.6E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	7.6E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	1.14E+01	1.82E+00	na	--	2.89E+01	3.40E+01	na	--	--	--	--	--	--	--	--	--	2.89E+01	3.40E+01	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.08E+00	na	--	3.56E+03	2.07E+03	na	--	--	--	--	--	--	--	--	--	3.56E+03	2.07E+03	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	2.0E+06	--	--	--	--	--	--	--	--	--	--	na	2.0E+06
Antimony	0	--	--	na	6.4E+02	--	--	na	3.3E+04	--	--	--	--	--	--	--	--	--	--	na	3.3E+04
Arsenic	o	3.4E+02	1.5E+02	na	--	8.6E+02	6.1E+02	na	--	--	--	--	--	--	--	--	--	8.6E+02	6.1E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	3.3E+06	--	--	--	--	--	--	--	--	--	--	na	3.3E+06
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	9.7E+04	--	--	--	--	--	--	--	--	--	--	na	9.7E+04
Cadmium	0	1.8E+00	6.6E-01	na	--	4.6E+00	2.7E+00	na	--	--	--	--	--	--	--	--	--	4.6E+00	2.7E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	6.1E+00	1.8E-02	na	8.1E-03	--	--	--	--	--	--	--	--	6.1E+00	1.8E-02	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	2.2E+06	9.4E+05	na	--	--	--	--	--	--	--	--	--	2.2E+06	9.4E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	4.8E+01	4.5E+01	na	--	--	--	--	--	--	--	--	--	4.8E+01	4.5E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	--	--	--	--	--	--	--	--	na	8.2E+04

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	5.6E+05	--	--	--	--	--	--	--	--	--	--	na	5.6E+05
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	--	--	--	--	--	--	--	--	na	8.2E+04
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	7.7E+03	--	--	--	--	--	--	--	--	--	--	na	7.7E+03
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	2.1E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	2.1E-01	1.7E-01	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	8.2E+02	1.7E+02	na	--	--	--	--	--	--	--	--	--	8.2E+02	1.7E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	4.1E+01	4.5E+01	na	--	--	--	--	--	--	--	--	--	4.1E+01	4.5E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	1.8E+01	2.0E+01	na	--	--	--	--	--	--	--	--	--	1.8E+01	2.0E+01	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	5.6E+01	2.1E+01	na	8.2E+05	--	--	--	--	--	--	--	--	5.6E+01	2.1E+01	na	8.2E+05
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	2.8E+00	4.1E-03	na	2.2E-03	--	--	--	--	--	--	--	--	2.8E+00	4.1E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	--	--	--	--	--	--	--	--	4.1E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	4.3E-01	6.9E-01	na	--	--	--	--	--	--	--	--	--	4.3E-01	6.9E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	6.6E+04	--	--	--	--	--	--	--	--	--	--	na	6.6E+04
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	4.9E+04	--	--	--	--	--	--	--	--	--	--	na	4.9E+04
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	9.7E+03	--	--	--	--	--	--	--	--	--	--	na	9.7E+03
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	3.6E+05	--	--	--	--	--	--	--	--	--	--	na	3.6E+05
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	5.1E+05	--	--	--	--	--	--	--	--	--	--	na	5.1E+05
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	1.5E+04	--	--	--	--	--	--	--	--	--	--	na	1.5E+04
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	6.1E-01	2.3E-01	na	5.4E-04	--	--	--	--	--	--	--	--	6.1E-01	2.3E-01	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	2.2E+06	--	--	--	--	--	--	--	--	--	--	na	2.2E+06
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	4.3E+04	--	--	--	--	--	--	--	--	--	--	na	4.3E+04
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	5.6E+07	--	--	--	--	--	--	--	--	--	--	na	5.6E+07
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	2.3E+05	--	--	--	--	--	--	--	--	--	--	na	2.3E+05
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	--	--	--	--	--	--	--	--	na	2.7E+05
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	2.6E-06	--	--	--	--	--	--	--	--	--	--	na	2.6E-06
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	--	--	--	--	--	--	--	--	5.6E-01	2.3E-01	na	4.5E+03
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	--	--	--	--	--	--	--	--	5.6E-01	2.3E-01	na	4.5E+03
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	5.6E-01	2.3E-01	--	--	--	--	--	--	--	--	--	--	5.6E-01	2.3E-01	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	2.2E-01	1.5E-01	na	3.1E+00	--	--	--	--	--	--	--	--	2.2E-01	1.5E-01	na	3.1E+00
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	1.5E+01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	7.2E+03	--	--	--	--	--	--	--	--	--	--	na	7.2E+03
Fluorene	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	--	--	--	--	--	--	--	--	na	2.7E+05
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	4.1E-02	na	--	--	--	--	--	--	--	--	--	--	4.1E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	1.3E+00	1.6E-02	na	7.9E-04	--	--	--	--	--	--	--	--	1.3E+00	1.6E-02	na	7.9E-04
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	1.3E+00	1.6E-02	na	3.9E-04	--	--	--	--	--	--	--	--	1.3E+00	1.6E-02	na	3.9E-04
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	2.4E+00	--	na	1.8E+00	--	--	--	--	--	--	--	--	2.4E+00	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	5.6E+04	--	--	--	--	--	--	--	--	--	--	na	5.6E+04
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	8.2E+00	na	--	--	--	--	--	--	--	--	--	--	8.2E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	1.3E+02	2.3E+01	na	--	--	--	--	--	--	--	--	--	1.3E+02	2.3E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	--	--	--	--	--	--	--	--	4.1E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	3.6E+00	3.1E+00	--	--	--	--	--	--	--	--	--	--	3.6E+00	3.1E+00	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	7.7E+04	--	--	--	--	--	--	--	--	--	--	na	7.7E+04
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	1.2E-01	na	--	--	--	--	--	--	--	--	--	--	1.2E-01	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	2.6E+02	4.6E+01	na	2.3E+05	--	--	--	--	--	--	--	--	2.6E+02	4.6E+01	na	2.3E+05
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	3.5E+04	--	--	--	--	--	--	--	--	--	--	na	3.5E+04
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	7.1E+01	2.7E+01	na	--	--	--	--	--	--	--	--	--	7.1E+01	2.7E+01	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.7E-01	5.3E-02	na	--	--	--	--	--	--	--	--	--	1.7E-01	5.3E-02	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	5.7E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	5.7E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	2.0E-02	2.4E-02	na	3.0E+01	--	--	--	--	--	--	--	--	2.0E-02	2.4E-02	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	4.4E+07	--	--	--	--	--	--	--	--	--	--	na	4.4E+07
Pyrene	0	--	--	na	4.0E+03	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	5.1E+01	2.0E+01	na	2.1E+05	--	--	--	--	--	--	--	--	**5.1E+01**	**2.0E+01**	**na**	**2.1E+05**
Silver	0	1.0E+00	--	na	--	2.7E+00	--	na	--	--	--	--	--	--	--	--	--	**2.7E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Toluene	0	--	--	na	6.0E+03	--	--	na	3.1E+05	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.1E+05**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	1.9E+00	8.2E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**1.9E+00**	**8.2E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	1.2E+00	2.9E-01	na	--	--	--	--	--	--	--	--	--	**1.2E+00**	**2.9E-01**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.6E+03**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	1.7E+02	2.7E+02	na	1.3E+06	--	--	--	--	--	--	--	--	**1.7E+02**	**2.7E+02**	**na**	**1.3E+06**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	3.3E+04
Arsenic	3.5E+02
Barium	na
Cadmium	1.6E+00
Chromium III	1.0E+02
Chromium VI	1.6E+01
Copper	7.1E+00
Iron	na
Lead	1.4E+01
Manganese	na
Mercury	1.4E+00
Nickel	2.8E+01
Selenium	1.2E+01
Silver	1.1E+00
Zinc	6.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith Midland Combined Flows Permit No.: VA0084298

Receiving Stream: Licking Run Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	23	deg C
90% Temperature (Wet season) =	15	deg C
90% Maximum pH =	7.8	SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows		
1Q10 (Annual) =	0.0023	MGD
7Q10 (Annual) =	0.0046	MGD
30Q10 (Annual) =	0.0266	MGD
1Q10 (Wet season) =	0.4391	MGD
30Q10 (Wet season)	1.0054	MGD
30Q5 =	0.0751	MGD
Harmonic Mean =	0	MGD

Mixing Information	
Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	100 %
- 30Q10 Mix =	100 %

Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.9	SU
10% Maximum pH =		SU
Discharge Flow =	0.0055	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	1.5E+04	--	--	--	--	--	--	--	--	--	--	na	1.5E+04
Acrolein	0	--	--	na	9.3E+00	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	4.3E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	4.3E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	1.07E+01	1.77E+00	na	--	1.53E+01	1.03E+01	na	--	--	--	--	--	--	--	--	--	1.53E+01	1.03E+01	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.08E+00	na	--	9.79E+02	5.67E+02	na	--	--	--	--	--	--	--	--	--	9.79E+02	5.67E+02	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	5.9E+05	--	--	--	--	--	--	--	--	--	--	na	5.9E+05
Antimony	0	--	--	na	6.4E+02	--	--	na	9.4E+03	--	--	--	--	--	--	--	--	--	--	na	9.4E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	4.8E+02	2.8E+02	na	--	--	--	--	--	--	--	--	--	4.8E+02	2.8E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	9.5E+05	--	--	--	--	--	--	--	--	--	--	na	9.5E+05
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	2.8E+04	--	--	--	--	--	--	--	--	--	--	na	2.8E+04
Cadmium	0	1.8E+00	6.6E-01	na	--	2.5E+00	1.2E+00	na	--	--	--	--	--	--	--	--	--	2.5E+00	1.2E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	3.4E+00	7.9E-03	na	8.1E-03	--	--	--	--	--	--	--	--	3.4E+00	7.9E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	1.2E+06	4.2E+05	na	--	--	--	--	--	--	--	--	--	1.2E+06	4.2E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	2.7E+01	2.0E+01	na	--	--	--	--	--	--	--	--	--	2.7E+01	2.0E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	2.3E+04	--	--	--	--	--	--	--	--	--	--	na	2.3E+04

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.6E+05	--	--	--	--	--	--	--	--	--	--	na	1.6E+05
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	2.3E+04	--	--	--	--	--	--	--	--	--	--	na	2.3E+04
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	2.2E+03	--	--	--	--	--	--	--	--	--	--	na	2.2E+03
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.2E-01	7.5E-02	na	--	--	--	--	--	--	--	--	--	1.2E-01	7.5E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	4.6E+02	7.7E+01	na	--	--	--	--	--	--	--	--	--	4.6E+02	7.7E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	2.3E+01	2.0E+01	na	--	--	--	--	--	--	--	--	--	2.3E+01	2.0E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	9.9E+00	9.1E+00	na	--	--	--	--	--	--	--	--	--	9.9E+00	9.1E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	3.1E+01	9.6E+00	na	2.3E+05	--	--	--	--	--	--	--	--	3.1E+01	9.6E+00	na	2.3E+05
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.6E+00	1.8E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.6E+00	1.8E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.8E-01	na	--	--	--	--	--	--	--	--	--	--	1.8E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	2.4E-01	3.1E-01	na	--	--	--	--	--	--	--	--	--	2.4E-01	3.1E-01	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.9E+04	--	--	--	--	--	--	--	--	--	--	na	1.9E+04
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	2.8E+03	--	--	--	--	--	--	--	--	--	--	na	2.8E+03
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	1.0E+05	--	--	--	--	--	--	--	--	--	--	na	1.0E+05
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.5E+05	--	--	--	--	--	--	--	--	--	--	na	1.5E+05
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	3.4E-01	1.0E-01	na	5.4E-04	--	--	--	--	--	--	--	--	3.4E-01	1.0E-01	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	6.4E+05	--	--	--	--	--	--	--	--	--	--	na	6.4E+05
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.6E+07	--	--	--	--	--	--	--	--	--	--	na	1.6E+07
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	6.6E+04	--	--	--	--	--	--	--	--	--	--	na	6.6E+04
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	7.8E+04	--	--	--	--	--	--	--	--	--	--	na	7.8E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	4.1E+03	--	--	--	--	--	--	--	--	--	--	na	4.1E+03
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	7.5E-07	--	--	--	--	--	--	--	--	--	--	na	7.5E-07
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	3.1E-01	1.0E-01	na	1.3E+03	--	--	--	--	--	--	--	--	3.1E-01	1.0E-01	na	1.3E+03
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	3.1E-01	1.0E-01	na	1.3E+03	--	--	--	--	--	--	--	--	3.1E-01	1.0E-01	na	1.3E+03
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	3.1E-01	1.0E-01	--	--	--	--	--	--	--	--	--	--	3.1E-01	1.0E-01	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.2E-01	6.6E-02	na	8.8E-01	--	--	--	--	--	--	--	--	1.2E-01	6.6E-02	na	8.8E-01
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	4.4E+00	--	--	--	--	--	--	--	--	--	--	na	4.4E+00

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	3.1E+04	--	--	--	--	--	--	--	--	--	--	na	3.1E+04
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluorene	0	--	--	na	5.3E+03	--	--	na	7.8E+04	--	--	--	--	--	--	--	--	--	--	na	7.8E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	--	--	1.8E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	7.4E-01	7.0E-03	na	7.9E-04	--	--	--	--	--	--	--	--	7.4E-01	7.0E-03	na	7.9E-04
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	7.4E-01	7.0E-03	na	3.9E-04	--	--	--	--	--	--	--	--	7.4E-01	7.0E-03	na	3.9E-04
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	1.3E+00	--	na	1.8E+00	--	--	--	--	--	--	--	--	1.3E+00	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	3.7E+00	na	--	--	--	--	--	--	--	--	--	--	3.7E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	7.0E+01	1.0E+01	na	--	--	--	--	--	--	--	--	--	7.0E+01	1.0E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.8E-01	na	--	--	--	--	--	--	--	--	--	--	1.8E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	2.0E+00	1.4E+00	--	--	--	--	--	--	--	--	--	--	2.0E+00	1.4E+00	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	2.2E+04	--	--	--	--	--	--	--	--	--	--	na	2.2E+04
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	5.5E-02	na	--	--	--	--	--	--	--	--	--	--	5.5E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.4E+02	2.1E+01	na	6.7E+04	--	--	--	--	--	--	--	--	1.4E+02	2.1E+01	na	6.7E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	4.0E+01	1.2E+01	na	--	--	--	--	--	--	--	--	--	4.0E+01	1.2E+01	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	9.2E-02	2.4E-02	na	--	--	--	--	--	--	--	--	--	9.2E-02	2.4E-02	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	2.6E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	2.6E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	1.1E-02	1.1E-02	na	3.0E+01	--	--	--	--	--	--	--	--	1.1E-02	1.1E-02	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	1.3E+07	--	--	--	--	--	--	--	--	--	--	na	1.3E+07
Pyrene	0	--	--	na	4.0E+03	--	--	na	5.9E+04	--	--	--	--	--	--	--	--	--	--	na	5.9E+04
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.8E+01	9.2E+00	na	6.2E+04	--	--	--	--	--	--	--	--	**2.8E+01**	**9.2E+00**	**na**	**6.2E+04**
Silver	0	1.0E+00	--	na	--	1.5E+00	--	na	--	--	--	--	--	--	--	--	--	**1.5E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	6.9E+00	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.9E+00**
Toluene	0	--	--	na	6.0E+03	--	--	na	8.8E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**8.8E+04**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	1.0E+00	3.7E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**1.0E+00**	**3.7E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	6.5E-01	1.3E-01	na	--	--	--	--	--	--	--	--	--	**6.5E-01**	**1.3E-01**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	1.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.0E+03**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	9.2E+01	1.2E+02	na	3.8E+05	--	--	--	--	--	--	--	--	**9.2E+01**	**1.2E+02**	**na**	**3.8E+05**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	9.4E+03
Arsenic	1.7E+02
Barium	na
Cadmium	7.3E-01
Chromium III	4.6E+01
Chromium VI	9.1E+00
Copper	4.0E+00
Iron	na
Lead	6.2E+00
Manganese	na
Mercury	8.0E-01
Nickel	1.2E+01
Selenium	5.5E+00
Silver	5.9E-01
Zinc	3.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Mixing Zone Predictions for Smith Midland Outfall 001

Effluent Flow = 0.0015 MGD
Stream 7Q10 = 0.0046 MGD
Stream 30Q10 = 0.0266 MGD
Stream 1Q10 = 0.0023 MGD
Stream slope = 0.04 ft/ft
Stream width = 3 ft
Bottom scale = 3
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .0174 ft
Length = 249.23 ft
Velocity = .1807 ft/sec
Residence Time = .016 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .0439 ft
Length = 114.19 ft
Velocity = .3306 ft/sec
Residence Time = .004 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .0131 ft
Length = 316.67 ft
Velocity = .1497 ft/sec
Residence Time = .5877 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

Mixing Zone Predictions for Smith Midland Combined Outfalls

Effluent Flow = 0.0055 MGD
Stream 7Q10 = 0.0046 MGD
Stream 30Q10 = 0.0266 MGD
Stream 1Q10 = 0.023 MGD
Stream slope = 0.04 ft/ft
Stream width = 3 ft
Bottom scale = 3
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .0236 ft
Length = 193.36 ft
Velocity = .2207 ft/sec
Residence Time = .0101 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .0473 ft
Length = 107.57 ft
Velocity = .3483 ft/sec
Residence Time = .0036 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .0442 ft
Length = 113.3 ft
Velocity = .3324 ft/sec
Residence Time = .0947 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

Attachment 8b

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith Midland Outfall 001 Permit No.: VA0084298

Receiving Stream: Licking Run Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	50 mg/L	1Q10 (Annual) =	0.0023 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	23 deg C	7Q10 (Annual) =	0.0046 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	15 deg C	30Q10 (Annual) =	0.0266 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	7.8 SU	1Q10 (Wet season) =	0.4391 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	7.9 SU
10% Maximum pH =	SU	30Q10 (Wet season)	1.0054 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	2	30Q5 =	0.0751 MGD			Discharge Flow =	0.0015 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	5.1E+04	--	--	na	9.9E+01	--	--	na	5.1E+03	--	--	na	**5.1E+03**
Acrolein	0	--	--	na	9.3E+00	--	--	na	4.8E+02	--	--	na	9.3E-01	--	--	na	4.8E+01	--	--	na	**4.8E+01**
Acrylonitrile [C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	na	2.5E-01	--	--	na	2.5E-01	--	--	na	**2.5E-01**
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	7.6E+00	--	na	5.0E-04	7.5E-01	--	na	5.0E-05	1.9E+00	--	na	5.0E-05	**1.9E+00**	--	na	**5.0E-05**
Ammonia-N (mg/l) (Yearly)	0	1.14E+01	1.82E+00	na	--	2.89E+01	3.40E+01	na	--	2.84E+00	4.55E-01	na	--	7.22E+00	8.51E+00	na	--	**7.22E+00**	**8.51E+00**	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.08E+00	na	--	3.56E+03	2.07E+03	na	--	3.03E+00	7.71E-01	na	--	8.91E+02	5.18E+02	na	--	**8.91E+02**	**5.18E+02**	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	2.0E+06	--	--	na	4.0E+03	--	--	na	2.0E+05	--	--	na	**2.0E+05**
Antimony	0	--	--	na	6.4E+02	--	--	na	3.3E+04	--	--	na	6.4E+01	--	--	na	3.3E+03	--	--	na	**3.3E+03**
Arsenic	o	3.4E+02	1.5E+02	na	--	8.6E+02	6.1E+02	na	--	8.5E+01	3.8E+01	na	--	2.2E+02	1.5E+02	na	--	**2.2E+02**	**1.5E+02**	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	na	5.1E+01	--	--	na	5.1E+01	--	--	na	**5.1E+01**
Benzidine [C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	na	2.0E-04	--	--	na	2.0E-04	--	--	na	**2.0E-04**
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	na	5.3E-01	--	--	na	5.3E-01	--	--	na	**5.3E-01**
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	3.3E+06	--	--	na	6.5E+03	--	--	na	3.3E+05	--	--	na	**3.3E+05**
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	na	2.2E+00	--	--	na	2.2E+00	--	--	na	**2.2E+00**
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	na	**1.4E+02**
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	9.7E+04	--	--	na	1.9E+02	--	--	na	9.7E+03	--	--	na	**9.7E+03**
Cadmium	0	1.8E+00	6.6E-01	na	--	4.6E+00	2.7E+00	na	--	4.5E-01	1.6E-01	na	--	1.1E+00	6.7E-01	na	--	**1.1E+00**	**6.7E-01**	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	na	1.6E+00	--	--	na	1.6E+00	--	--	na	**1.6E+00**
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	6.1E+00	1.8E-02	na	8.1E-03	6.0E-01	1.1E-03	na	8.1E-04	1.5E+00	4.4E-03	na	8.1E-04	**1.5E+00**	**4.4E-03**	na	**8.1E-04**
Chloride	0	8.6E+05	2.3E+05	na	--	2.2E+06	9.4E+05	na	--	2.2E+05	5.8E+04	na	--	5.5E+05	2.3E+05	na	--	**5.5E+05**	**2.3E+05**	na	--
TRC	0	1.9E+01	1.1E+01	na	--	4.8E+01	4.5E+01	na	--	4.8E+00	2.8E+00	na	--	1.2E+01	1.1E+01	na	--	**1.2E+01**	**1.1E+01**	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	na	1.6E+02	--	--	na	8.2E+03	--	--	na	**8.2E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	na	1.3E+01	--	--	na	1.3E+01	--	--	na	**1.3E+01**
Chloroform	0	--	--	na	1.1E+04	--	--	na	5.6E+05	--	--	na	1.1E+03	--	--	na	5.6E+04	--	--	na	**5.6E+04**
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	na	1.6E+02	--	--	na	8.2E+03	--	--	na	**8.2E+03**
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	7.7E+03	--	--	na	1.5E+01	--	--	na	7.7E+02	--	--	na	**7.7E+02**
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	2.1E-01	1.7E-01	na	--	2.1E-02	1.0E-02	na	--	5.3E-02	4.2E-02	na	--	**5.3E-02**	**4.2E-02**	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	8.2E+02	1.7E+02	na	--	8.1E+01	1.1E+01	na	--	2.1E+02	4.3E+01	na	--	**2.1E+02**	**4.3E+01**	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	4.1E+01	4.5E+01	na	--	4.0E+00	2.8E+00	na	--	1.0E+01	1.1E+01	na	--	**1.0E+01**	**1.1E+01**	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	1.0E+01	--	--	--	5.1E+02	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-03	--	--	na	1.8E-03	--	--	na	**1.8E-03**
Copper	0	7.0E+00	5.0E+00	na	--	1.8E+01	2.0E+01	na	--	1.7E+00	1.2E+00	na	--	4.4E+00	5.1E+00	na	--	**4.4E+00**	**5.1E+00**	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	5.6E+01	2.1E+01	na	8.2E+05	5.5E+00	1.3E+00	na	1.6E+03	1.4E+01	5.3E+00	na	8.2E+04	**1.4E+01**	**5.3E+00**	na	**8.2E+04**
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	na	3.1E-04	--	--	na	3.1E-04	--	--	na	**3.1E-04**
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	na	2.2E-04	--	--	na	2.2E-04	--	--	na	**2.2E-04**
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	2.8E+00	4.1E-03	na	2.2E-03	2.8E-01	2.5E-04	na	2.2E-04	7.0E-01	1.0E-03	na	2.2E-04	**7.0E-01**	**1.0E-03**	na	**2.2E-04**
Demeton	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	2.5E-02	na	--	--	1.0E-01	na	--	--	**1.0E-01**	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	4.3E-01	6.9E-01	na	--	4.3E-02	4.3E-02	na	--	1.1E-01	1.7E-01	na	--	**1.1E-01**	**1.7E-01**	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	6.6E+04	--	--	na	1.3E+02	--	--	na	6.6E+03	--	--	na	**6.6E+03**
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	4.9E+04	--	--	na	9.6E+01	--	--	na	4.9E+03	--	--	na	**4.9E+03**
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	9.7E+03	--	--	na	1.9E+01	--	--	na	9.7E+02	--	--	na	**9.7E+02**
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	na	2.8E-02	--	--	na	2.8E-02	--	--	na	**2.8E-02**
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	**1.7E+01**
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	na	3.7E+01	--	--	na	3.7E+01	--	--	na	**3.7E+01**
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	3.6E+05	--	--	na	7.1E+02	--	--	na	3.6E+04	--	--	na	**3.6E+04**
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	5.1E+05	--	--	na	1.0E+03	--	--	na	5.1E+04	--	--	na	**5.1E+04**
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	1.5E+04	--	--	na	2.9E+01	--	--	na	1.5E+03	--	--	na	**1.5E+03**
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	na	**1.5E+01**
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	na	2.1E+01	--	--	na	2.1E+01	--	--	na	**2.1E+01**
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	6.1E-01	2.3E-01	na	5.4E-04	6.0E-02	1.4E-02	na	5.4E-05	1.5E-01	5.7E-02	na	5.4E-05	**1.5E-01**	**5.7E-02**	na	**5.4E-05**
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	2.2E+06	--	--	na	4.4E+03	--	--	na	2.2E+05	--	--	na	**2.2E+05**
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	4.3E+04	--	--	na	8.5E+01	--	--	na	4.3E+03	--	--	na	**4.3E+03**
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	5.6E+07	--	--	na	1.1E+05	--	--	na	5.6E+06	--	--	na	**5.6E+06**
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	2.3E+05	--	--	na	4.5E+02	--	--	na	2.3E+04	--	--	na	**2.3E+04**
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	na	5.3E+02	--	--	na	2.7E+04	--	--	na	**2.7E+04**
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	1.4E+04	--	--	na	2.8E+01	--	--	na	1.4E+03	--	--	na	**1.4E+03**
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	na	3.4E+00	--	--	na	3.4E+00	--	--	na	**3.4E+00**
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	2.6E-06	--	--	na	5.1E-09	--	--	na	2.6E-07	--	--	na	**2.6E-07**
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	na	2.0E-01	--	--	na	2.0E-01	--	--	na	**2.0E-01**
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	5.5E-02	1.4E-02	na	8.9E+00	1.4E-01	5.7E-02	na	4.5E+02	**1.4E-01**	**5.7E-02**	na	**4.5E+02**
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	5.5E-02	1.4E-02	na	8.9E+00	1.4E-01	5.7E-02	na	4.5E+02	**1.4E-01**	**5.7E-02**	na	**4.5E+02**
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	5.6E-01	2.3E-01	--	--	5.5E-02	1.4E-02	--	--	1.4E-01	5.7E-02	--	--	**1.4E-01**	**5.7E-02**	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	4.5E+03	--	--	na	8.9E+00	--	--	na	4.5E+02	--	--	na	**4.5E+02**
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	2.2E-01	1.5E-01	na	3.1E+00	2.2E-02	9.0E-03	na	6.0E-03	5.5E-02	3.7E-02	na	3.1E-01	**5.5E-02**	**3.7E-02**	na	**3.1E-01**
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	1.5E+01	--	--	na	3.0E-02	--	--	na	1.5E+00	--	--	na	**1.5E+00**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	1.1E+05	--	--	na	2.1E+02	--	--	na	1.1E+04	--	--	na	1.1E+04
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	7.2E+03	--	--	na	1.4E+01	--	--	na	7.2E+02	--	--	na	7.2E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	na	5.3E+02	--	--	na	2.7E+04	--	--	na	2.7E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	4.1E-02	na	--	--	2.5E-03	na	--	--	1.0E-02	na	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	1.3E+00	1.6E-02	na	7.9E-04	1.3E-01	9.5E-04	na	7.9E-05	3.3E-01	3.9E-03	na	7.9E-05	3.3E-01	3.9E-03	na	7.9E-05
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	1.3E+00	1.6E-02	na	3.9E-04	1.3E-01	9.5E-04	na	3.9E-05	3.3E-01	3.9E-03	na	3.9E-05	3.3E-01	3.9E-03	na	3.9E-05
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	na	2.9E-04	--	--	na	2.9E-04	--	--	na	2.9E-04
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	na	1.8E+01	--	--	na	1.8E+01	--	--	na	1.8E+01
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-03	--	--	na	4.9E-03	--	--	na	4.9E-03
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	na	1.7E-02	--	--	na	1.7E-02	--	--	na	1.7E-02
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	2.4E+00	--	na	1.8E+00	2.4E-01	--	na	1.8E-01	6.0E-01	--	na	1.8E-01	6.0E-01	--	na	1.8E-01
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	5.6E+04	--	--	na	1.1E+02	--	--	na	5.6E+03	--	--	na	5.6E+03
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	3.3E+00
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	8.2E+00	na	--	--	5.0E-01	na	--	--	2.0E+00	na	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	na	9.6E+02
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	1.3E+02	2.3E+01	na	--	1.2E+01	1.4E+00	na	--	3.1E+01	5.7E+00	na	--	3.1E+01	5.7E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	2.5E-02	na	--	--	1.0E-01	na	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	3.6E+00	3.1E+00	--	--	3.5E-01	1.9E-01	--	--	8.9E-01	7.9E-01	--	--	8.9E-01	7.9E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	7.7E+04	--	--	na	1.5E+02	--	--	na	7.7E+03	--	--	na	7.7E+03
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	na	5.9E+02	--	--	na	5.9E+02	--	--	na	5.9E+02
Methoxychlor	0	--	3.0E-02	na	--	--	1.2E-01	na	--	--	7.5E-03	na	--	--	3.1E-02	na	--	--	3.1E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	2.6E+02	4.6E+01	na	2.3E+05	2.5E+01	2.8E+00	na	4.6E+02	6.4E+01	1.2E+01	na	2.3E+04	6.4E+01	1.2E+01	na	2.3E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	3.5E+04	--	--	na	6.9E+01	--	--	na	3.5E+03	--	--	na	3.5E+03
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+00	--	--	na	3.0E+00	--	--	na	3.0E+00
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	na	6.0E+00	--	--	na	6.0E+00	--	--	na	6.0E+00
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	na	5.1E-01	--	--	na	5.1E-01	--	--	na	5.1E-01
Nonylphenol	0	2.8E+01	6.6E+00	--	--	7.1E+01	2.7E+01	na	--	7.0E+00	1.7E+00	--	--	1.8E+01	6.7E+00	--	--	1.8E+01	6.7E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.7E-01	5.3E-02	na	--	1.6E-02	3.3E-03	na	--	4.1E-02	1.3E-02	na	--	4.1E-02	1.3E-02	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	5.7E-02	na	6.4E-04	--	3.5E-03	na	6.4E-05	--	1.4E-02	na	6.4E-05	--	1.4E-02	na	6.4E-05
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	2.0E-02	2.4E-02	na	3.0E+01	1.9E-03	1.5E-03	na	3.0E+00	4.9E-03	6.0E-03	na	3.0E+00	4.9E-03	6.0E-03	na	3.0E+00
Phenol	0	--	--	na	8.6E+05	--	--	na	4.4E+07	--	--	na	8.6E+04	--	--	na	4.4E+06	--	--	na	4.4E+06
Pyrene	0	--	--	na	4.0E+03	--	--	na	2.0E+05	--	--	na	4.0E+02	--	--	na	2.0E+04	--	--	na	2.0E+04
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	5.1E+01	2.0E+01	na	2.1E+05	5.0E+00	1.3E+00	na	4.2E+02	1.3E+01	5.1E+00	na	2.1E+04	**1.3E+01**	**5.1E+00**	**na**	**2.1E+04**
Silver	0	1.0E+00	--	na	--	2.7E+00	--	na	--	2.6E-01	--	na	--	6.7E-01	--	na	--	**6.7E-01**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	na	4.0E+00	--	--	na	4.0E+00	**--**	**--**	**na**	**4.0E+00**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	**--**	**--**	**na**	**3.3E+00**
Thallium	0	--	--	na	4.7E-01	--	--	na	2.4E+01	--	--	na	4.7E-02	--	--	na	2.4E+00	**--**	**--**	**na**	**2.4E+00**
Toluene	0	--	--	na	6.0E+03	--	--	na	3.1E+05	--	--	na	6.0E+02	--	--	na	3.1E+04	**--**	**--**	**na**	**3.1E+04**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	1.9E+00	8.2E-04	na	2.8E-03	1.8E-01	5.0E-05	na	2.8E-04	4.6E-01	2.0E-04	na	2.8E-04	**4.6E-01**	**2.0E-04**	**na**	**2.8E-04**
Tributyltin	0	4.6E-01	7.2E-02	na	--	1.2E+00	2.9E-01	na	--	1.2E-01	1.8E-02	na	--	2.9E-01	7.3E-02	na	--	**2.9E-01**	**7.3E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	3.6E+03	--	--	na	7.0E+00	--	--	na	3.6E+02	**--**	**--**	**na**	**3.6E+02**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	na	1.6E+01	--	--	na	1.6E+01	**--**	**--**	**na**	**1.6E+01**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	na	3.0E+01	--	--	na	3.0E+01	**--**	**--**	**na**	**3.0E+01**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	**--**	**--**	**na**	**2.4E+00**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	**--**	**--**	**na**	**2.4E+00**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	1.7E+02	2.7E+02	na	1.3E+06	1.6E+01	1.6E+01	na	2.6E+03	4.1E+01	6.7E+01	na	1.3E+05	**4.1E+01**	**6.7E+01**	**na**	**1.3E+05**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	3.3E+03
Arsenic	8.6E+01
Barium	na
Cadmium	4.0E-01
Chromium III	2.6E+01
Chromium VI	4.1E+00
Copper	1.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	3.6E-01
Nickel	6.9E+00
Selenium	3.1E+00
Silver	2.7E-01
Zinc	1.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith Midland Combined Flows Permit No.: VA0084298

Receiving Stream: Licking Run Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	23	deg C
90% Temperature (Wet season) =	15	deg C
90% Maximum pH =	7.8	SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	2	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows		
1Q10 (Annual) =	0.0023	MGD
7Q10 (Annual) =	0.0046	MGD
30Q10 (Annual) =	0.0266	MGD
1Q10 (Wet season) =	0.4391	MGD
30Q10 (Wet season)	1.0054	MGD
30Q5 =	0.0751	MGD
Harmonic Mean =	0	MGD

Mixing Information	
Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	100 %
- 30Q10 Mix =	100 %

Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.9	SU
10% Maximum pH =		SU
Discharge Flow =	0.0055	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	na	9.9E+02	--	--	na	1.5E+04	--	--	na	9.9E+01	--	--	na	1.5E+03	--	--	na	**1.5E+03**
Acrolein	0	--	--	na	9.3E+00	--	--	na	1.4E+02	--	--	na	9.3E-01	--	--	na	1.4E+01	--	--	na	**1.4E+01**
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	na	2.5E-01	--	--	na	2.5E-01	--	--	na	**2.5E-01**
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	4.3E+00	--	na	5.0E-04	7.5E-01	--	na	5.0E-05	1.1E+00	--	na	5.0E-05	**1.1E+00**	--	na	**5.0E-05**
Ammonia-N (mg/l) (Yearly)	0	1.07E+01	1.77E+00	na	--	1.53E+01	1.03E+01	na	--	2.69E+00	4.42E-01	na	--	3.81E+00	2.58E+00	na	--	**3.81E+00**	**2.58E+00**	na	--
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.08E+00	na	--	9.79E+02	5.67E+02	na	--	3.03E+00	7.71E-01	na	--	2.45E+02	1.42E+02	na	--	**2.45E+02**	**1.42E+02**	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	5.9E+05	--	--	na	4.0E+03	--	--	na	5.9E+04	--	--	na	**5.9E+04**
Antimony	0	--	--	na	6.4E+02	--	--	na	9.4E+03	--	--	na	6.4E+01	--	--	na	9.4E+02	--	--	na	**9.4E+02**
Arsenic	o	3.4E+02	1.5E+02	na	--	4.8E+02	2.8E+02	na	--	8.5E+01	3.8E+01	na	--	1.2E+02	6.9E+01	na	--	**1.2E+02**	**6.9E+01**	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	na	5.1E+01	--	--	na	5.1E+01	--	--	na	**5.1E+01**
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	na	2.0E-04	--	--	na	2.0E-04	--	--	na	**2.0E-04**
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	na	5.3E-01	--	--	na	5.3E-01	--	--	na	**5.3E-01**
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	9.5E+05	--	--	na	6.5E+03	--	--	na	9.5E+04	--	--	na	**9.5E+04**
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	na	2.2E+00	--	--	na	2.2E+00	--	--	na	**2.2E+00**
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	na	**1.4E+02**
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	2.8E+04	--	--	na	1.9E+02	--	--	na	2.8E+03	--	--	na	**2.8E+03**
Cadmium	0	1.8E+00	6.6E-01	na	--	2.5E+00	1.2E+00	na	--	4.5E-01	1.6E-01	na	--	6.4E-01	3.0E-01	na	--	**6.4E-01**	**3.0E-01**	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	na	1.6E+00	--	--	na	1.6E+00	--	--	na	**1.6E+00**
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	3.4E+00	7.9E-03	na	8.1E-03	6.0E-01	1.1E-03	na	8.1E-04	8.5E-01	2.0E-03	na	8.1E-04	**8.5E-01**	**2.0E-03**	na	**8.1E-04**
Chloride	0	8.6E+05	2.3E+05	na	--	1.2E+06	4.2E+05	na	--	2.2E+05	5.8E+04	na	--	3.1E+05	1.1E+05	na	--	**3.1E+05**	**1.1E+05**	na	--
TRC	0	1.9E+01	1.1E+01	na	--	2.7E+01	2.0E+01	na	--	4.8E+00	2.8E+00	na	--	6.7E+00	5.1E+00	na	--	**6.7E+00**	**5.1E+00**	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	2.3E+04	--	--	na	1.6E+02	--	--	na	2.3E+03	--	--	na	**2.3E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	na	1.3E+01	--	--	na	1.3E+01	--	--	na	1.3E+01
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.6E+05	--	--	na	1.1E+03	--	--	na	1.6E+04	--	--	na	1.6E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	2.3E+04	--	--	na	1.6E+02	--	--	na	2.3E+03	--	--	na	2.3E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	2.2E+03	--	--	na	1.5E+01	--	--	na	2.2E+02	--	--	na	2.2E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.2E-01	7.5E-02	na	--	2.1E-02	1.0E-02	na	--	2.9E-02	1.9E-02	na	--	2.9E-02	1.9E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	4.6E+02	7.7E+01	na	--	8.1E+01	1.1E+01	na	--	1.1E+02	1.9E+01	na	--	1.1E+02	1.9E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	2.3E+01	2.0E+01	na	--	4.0E+00	2.8E+00	na	--	5.7E+00	5.1E+00	na	--	5.7E+00	5.1E+00	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	1.0E+01	--	--	--	1.5E+02	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-03	--	--	na	1.8E-03	--	--	na	1.8E-03
Copper	0	7.0E+00	5.0E+00	na	--	9.9E+00	9.1E+00	na	--	1.7E+00	1.2E+00	na	--	2.5E+00	2.3E+00	na	--	2.5E+00	2.3E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	3.1E+01	9.6E+00	na	2.3E+05	5.5E+00	1.3E+00	na	1.6E+03	7.8E+00	2.4E+00	na	2.3E+04	7.8E+00	2.4E+00	na	2.3E+04
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	na	3.1E-04	--	--	na	3.1E-04	--	--	na	3.1E-04
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	na	2.2E-04	--	--	na	2.2E-04	--	--	na	2.2E-04
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.6E+00	1.8E-03	na	2.2E-03	2.8E-01	2.5E-04	na	2.2E-04	3.9E-01	4.6E-04	na	2.2E-04	3.9E-01	4.6E-04	na	2.2E-04
Demeton	0	--	1.0E-01	na	--	--	1.8E-01	na	--	--	2.5E-02	na	--	--	4.6E-02	na	--	--	4.6E-02	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	2.4E-01	3.1E-01	na	--	4.3E-02	4.3E-02	na	--	6.0E-02	7.8E-02	na	--	6.0E-02	7.8E-02	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.9E+04	--	--	na	1.3E+02	--	--	na	1.9E+03	--	--	na	1.9E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	1.4E+04	--	--	na	9.6E+01	--	--	na	1.4E+03	--	--	na	1.4E+03
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	2.8E+03	--	--	na	1.9E+01	--	--	na	2.8E+02	--	--	na	2.8E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	na	2.8E-02	--	--	na	2.8E-02	--	--	na	2.8E-02
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+01
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	na	3.7E+01	--	--	na	3.7E+01	--	--	na	3.7E+01
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	1.0E+05	--	--	na	7.1E+02	--	--	na	1.0E+04	--	--	na	1.0E+04
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.5E+05	--	--	na	1.0E+03	--	--	na	1.5E+04	--	--	na	1.5E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	4.3E+03	--	--	na	2.9E+01	--	--	na	4.3E+02	--	--	na	4.3E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	na	1.5E+01
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	na	2.1E+01	--	--	na	2.1E+01	--	--	na	2.1E+01
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	3.4E-01	1.0E-01	na	5.4E-04	6.0E-02	1.4E-02	na	5.4E-05	8.5E-02	2.6E-02	na	5.4E-05	8.5E-02	2.6E-02	na	5.4E-05
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	6.4E+05	--	--	na	4.4E+03	--	--	na	6.4E+04	--	--	na	6.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	1.2E+04	--	--	na	8.5E+01	--	--	na	1.2E+03	--	--	na	1.2E+03
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.6E+07	--	--	na	1.1E+05	--	--	na	1.6E+06	--	--	na	1.6E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	6.6E+04	--	--	na	4.5E+02	--	--	na	6.6E+03	--	--	na	6.6E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	7.8E+04	--	--	na	5.3E+02	--	--	na	7.8E+03	--	--	na	7.8E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	4.1E+03	--	--	na	2.8E+01	--	--	na	4.1E+02	--	--	na	4.1E+02
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	na	3.4E+00	--	--	na	3.4E+00	--	--	na	3.4E+00
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	7.5E-07	--	--	na	5.1E-09	--	--	na	7.5E-08	--	--	na	7.5E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	na	2.0E-01	--	--	na	2.0E-01	--	--	na	2.0E-01
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	3.1E-01	1.0E-01	na	1.3E+03	5.5E-02	1.4E-02	na	8.9E+00	7.8E-02	2.6E-02	na	1.3E+02	7.8E-02	2.6E-02	na	1.3E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	3.1E-01	1.0E-01	na	1.3E+03	5.5E-02	1.4E-02	na	8.9E+00	7.8E-02	2.6E-02	na	1.3E+02	7.8E-02	2.6E-02	na	1.3E+02
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	3.1E-01	1.0E-01	--	--	5.5E-02	1.4E-02	--	--	7.8E-02	2.6E-02	--	--	7.8E-02	2.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	1.3E+03	--	--	na	8.9E+00	--	--	na	1.3E+02	--	--	na	1.3E+02
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.2E-01	6.6E-02	na	8.8E-01	2.2E-02	9.0E-03	na	6.0E-03	3.1E-02	1.7E-02	na	8.8E-02	3.1E-02	1.7E-02	na	8.8E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	4.4E+00	--	--	na	3.0E-02	--	--	na	4.4E-01	--	--	na	4.4E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	3.1E+04	--	--	na	2.1E+02	--	--	na	3.1E+03	--	--	na	**3.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	2.1E+03	--	--	na	1.4E+01	--	--	na	2.1E+02	--	--	na	**2.1E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	7.8E+04	--	--	na	5.3E+02	--	--	na	7.8E+03	--	--	na	**7.8E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Guthion	0	--	1.0E-02	na	--	--	1.8E-02	na	--	--	2.5E-03	na	--	--	4.6E-03	na	--	--	**4.6E-03**	na	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	7.4E-01	7.0E-03	na	7.9E-04	1.3E-01	9.5E-04	na	7.9E-05	1.8E-01	1.7E-03	na	7.9E-05	**1.8E-01**	**1.7E-03**	na	**7.9E-05**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	7.4E-01	7.0E-03	na	3.9E-04	1.3E-01	9.5E-04	na	3.9E-05	1.8E-01	1.7E-03	na	3.9E-05	**1.8E-01**	**1.7E-03**	na	**3.9E-05**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	na	2.9E-04	--	--	na	2.9E-04	--	--	na	**2.9E-04**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	na	1.8E+01	--	--	na	1.8E+01	--	--	na	**1.8E+01**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-03	--	--	na	4.9E-03	--	--	na	**4.9E-03**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	na	1.7E-02	--	--	na	1.7E-02	--	--	na	**1.7E-02**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	1.3E+00	--	na	1.8E+00	2.4E-01	--	na	1.8E-01	3.4E-01	--	na	1.8E-01	**3.4E-01**	--	na	**1.8E-01**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.6E+04	--	--	na	1.1E+02	--	--	na	1.6E+03	--	--	na	**1.6E+03**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	**3.3E+00**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	3.7E+00	na	--	--	5.0E-01	na	--	--	9.2E-01	na	--	--	**9.2E-01**	na	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	**1.8E-02**
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	na	**9.6E+02**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	**0.0E+00**	na	**--**
Lead	0	4.9E+01	5.6E+00	na	--	7.0E+01	1.0E+01	na	--	1.2E+01	1.4E+00	na	--	1.7E+01	2.6E+00	na	--	**1.7E+01**	**2.6E+00**	na	**--**
Malathion	0	--	1.0E-01	na	--	--	1.8E-01	na	--	--	2.5E-02	na	--	--	4.6E-02	na	--	--	**4.6E-02**	na	**--**
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Mercury	0	1.4E+00	7.7E-01	--	--	2.0E+00	1.4E+00	--	--	3.5E-01	1.9E-01	--	--	5.0E-01	3.5E-01	--	--	**5.0E-01**	**3.5E-01**	--	**--**
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	2.2E+04	--	--	na	1.5E+02	--	--	na	2.2E+03	--	--	na	**2.2E+03**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	na	5.9E+02	--	--	na	5.9E+02	--	--	na	**5.9E+02**
Methoxychlor	0	--	3.0E-02	na	--	--	5.5E-02	na	--	--	7.5E-03	na	--	--	1.4E-02	na	--	--	**1.4E-02**	na	**--**
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	**0.0E+00**	na	**--**
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.4E+02	2.1E+01	na	6.7E+04	2.5E+01	2.8E+00	na	4.6E+02	3.6E+01	5.2E+00	na	6.7E+03	**3.6E+01**	**5.2E+00**	na	**6.7E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	1.0E+04	--	--	na	6.9E+01	--	--	na	1.0E+03	--	--	na	**1.0E+03**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+00	--	--	na	3.0E+00	--	--	na	**3.0E+00**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	na	6.0E+00	--	--	na	6.0E+00	--	--	na	**6.0E+00**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	na	5.1E-01	--	--	na	5.1E-01	--	--	na	**5.1E-01**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	4.0E+01	1.2E+01	na	--	7.0E+00	1.7E+00	--	--	9.9E+00	3.0E+00	--	--	**9.9E+00**	**3.0E+00**	na	**--**
Parathion	0	6.5E-02	1.3E-02	na	--	9.2E-02	2.4E-02	na	--	1.6E-02	3.3E-03	na	--	2.3E-02	6.0E-03	na	--	**2.3E-02**	**6.0E-03**	na	**--**
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	2.6E-02	na	6.4E-04	--	3.5E-03	na	6.4E-05	--	6.4E-03	na	6.4E-05	--	**6.4E-03**	na	**6.4E-05**
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	1.1E-02	1.1E-02	na	3.0E+01	1.9E-03	1.5E-03	na	3.0E+00	2.7E-03	2.7E-03	na	3.0E+00	**2.7E-03**	**2.7E-03**	na	**3.0E+00**
Phenol	0	--	--	na	8.6E+05	--	--	na	1.3E+07	--	--	na	8.6E+04	--	--	na	1.3E+06	--	--	na	**1.3E+06**
Pyrene	0	--	--	na	4.0E+03	--	--	na	5.9E+04	--	--	na	4.0E+02	--	--	na	5.9E+03	--	--	na	**5.9E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	**--**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.8E+01	9.2E+00	na	6.2E+04	5.0E+00	1.3E+00	na	4.2E+02	7.1E+00	2.3E+00	na	6.2E+03	**7.1E+00**	**2.3E+00**	**na**	**6.2E+03**
Silver	0	1.0E+00	--	na	--	1.5E+00	--	na	--	2.6E-01	--	na	--	3.7E-01	--	na	--	**3.7E-01**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	na	4.0E+00	--	--	na	4.0E+00	**--**	**--**	**na**	**4.0E+00**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	**--**	**--**	**na**	**3.3E+00**
Thallium	0	--	--	na	4.7E-01	--	--	na	6.9E+00	--	--	na	4.7E-02	--	--	na	6.9E-01	**--**	**--**	**na**	**6.9E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	8.8E+04	--	--	na	6.0E+02	--	--	na	8.8E+03	**--**	**--**	**na**	**8.8E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	1.0E+00	3.7E-04	na	2.8E-03	1.8E-01	5.0E-05	na	2.8E-04	2.6E-01	9.2E-05	na	2.8E-04	**2.6E-01**	**9.2E-05**	**na**	**2.8E-04**
Tributyltin	0	4.6E-01	7.2E-02	na	--	6.5E-01	1.3E-01	na	--	1.2E-01	1.8E-02	na	--	1.6E-01	3.3E-02	na	--	**1.6E-01**	**3.3E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	1.0E+03	--	--	na	7.0E+00	--	--	na	1.0E+02	**--**	**--**	**na**	**1.0E+02**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	na	1.6E+01	--	--	na	1.6E+01	**--**	**--**	**na**	**1.6E+01**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	na	3.0E+01	--	--	na	3.0E+01	**--**	**--**	**na**	**3.0E+01**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	**--**	**--**	**na**	**2.4E+00**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	**--**	**--**	**na**	**2.4E+00**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	9.2E+01	1.2E+02	na	3.8E+05	1.6E+01	1.6E+01	na	2.6E+03	2.3E+01	3.0E+01	na	3.8E+04	**2.3E+01**	**3.0E+01**	**na**	**3.8E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	9.4E+02
Arsenic	4.1E+01
Barium	na
Cadmium	1.8E-01
Chromium III	1.2E+01
Chromium VI	2.3E+00
Copper	9.9E-01
Iron	na
Lead	1.5E+00
Manganese	na
Mercury	2.0E-01
Nickel	3.1E+00
Selenium	1.4E+00
Silver	1.5E-01
Zinc	9.2E+00

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Smith Midland Outfall 001 (VA0084298)
pH Data (Jun 2011 -- Jun 2016)

DMR Due	Concentration Min (S.U.)	Concentration Max (S.U.)
10-Jul-2011	6.6	7.4
10-Aug-2011	6.7	7.2
10-Sep-2011	7.2	7.8
10-Oct-2011	6.8	7.6
10-Nov-2011	7.3	7.9
10-Dec-2011	7.4	7.8
10-Jan-2012	7	8.1
10-Feb-2012	7.2	7.9
10-Mar-2012	7.1	7.9
10-Apr-2012	6.8	7.6
10-May-2012	6.7	7.5
10-Jun-2012	6	7.9
10-Jul-2012	6.8	7.6
10-Aug-2012	7	8.1
10-Sep-2012	6.9	8
10-Oct-2012	6.9	7.8
10-Nov-2012	6.4	7.7
10-Dec-2012	6.5	7.8
10-Jan-2013	6.5	7.2
10-Feb-2013	6.5	8.1
10-Mar-2013	7.2	8
10-Apr-2013	6.7	7.6
10-May-2013	6.5	8
10-Jun-2013	6.2	7.8
10-Jul-2013	6.1	7.5
10-Aug-2013	6.1	7.3
10-Sep-2013	6.6	7.4
10-Oct-2013	6.3	7.4
10-Nov-2013	6.4	7.5
10-Dec-2013	6.5	8.3
10-Jan-2014	6.8	7.8
10-Feb-2014	7.1	8.2
10-Mar-2014	6.8	7.9
10-Apr-2014	6.5	8.2
10-May-2014	7.4	8.2
10-Jun-2014	7.1	7.8
10-Jul-2014	7	7.5
10-Aug-2014	6.8	7.8
10-Sep-2014	6.8	7.6
10-Oct-2014	6.4	7.8
10-Nov-2014	7.2	8
10-Dec-2014	7	8.3
10-Jan-2015	7.3	8.2
10-Feb-2015	6.9	8.5
10-Mar-2015	7.3	8.1
10-Apr-2015	7	8
10-May-2015	6.9	7.9
10-Jun-2015	6.6	7.6

Smith Midland Outfall 001 (VA0084298)
pH Data (Jun 2011 -- Jun 2016)

10-Jul-2015	6.7	7.6
10-Aug-2015	7	7.8
10-Sep-2015	6.1	7.8
10-Oct-2015	6.2	8.2
10-Nov-2015	7.3	8.7
10-Dec-2015	7.2	8.6
10-Jan-2016	6.8	8.3
10-Feb-2016	6.9	8.2
10-Mar-2016	6.7	8
10-Apr-2016	7.1	8.1
10-May-2016	6.9	8.2
10-Jun-2016	7.2	8.2
10-Jul-2016	6.9	8
90th Percentile		**8.2**

Field Data for DEQ Monitoring Station 1ALIL001.43
(Jan 2014 -- Dec 2014)

Station ID	Collection Date/Time	Temp (C)	pH (SU)
1ALIL001.43	13/01/2014	1.67	7.71
1ALIL001.43	10/02/2014	.98	6.63
1ALIL001.43	18/03/2014	3.31	6.81
1ALIL001.43	23/04/2014	13.41	7.52
1ALIL001.43	12/05/2014	19.37	6.56
1ALIL001.43	09/06/2014	22.02	7.19
1ALIL001.43	07/07/2014	22.14	7.57
1ALIL001.43	26/08/2014	19.73	7.44
1ALIL001.43	08/09/2014	21.12	7.35
1ALIL001.43	02/10/2014	17.77	7.43
1ALIL001.43	04/11/2014	8.35	6.83
1ALIL001.43	18/12/2014	3.87	6.65
90th Percentile Values		**21.93**	**7.565**

Westernik, Anna (DEQ)

From: Susan Lingenfelser <susan_lingenfelser@fws.gov>
Sent: Friday, August 26, 2016 12:26 PM
To: Westernik, Anna (DEQ)
Subject: RE: VA0084298 DGIF Coordination Form Mar 2016.doc

Good Afternoon Anna,
Thanks for sending the DMRs. The federally listed endangered dwarf wedgemussel (*Alasmidonta heterodon*) is known in the area. Looking at the DMRs, there were some instances when TSS was above limits which is a concern. However, provided the project applicant adheres to the effluent limitations and monitoring requirements specified in the permit, we do not anticipate the re-issuance of this existing permit to result in adverse impacts and we have no further comment. Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered. If you have any questions, please contact me at (804) 824-2415 or via email at susan_lingenfelser@fws.gov.
Regards, Susan

From: Westernik, Anna (DEQ) [mailto:Anna.Westernik@deq.virginia.gov]
Sent: Thursday, July 28, 2016 4:03 PM
To: Susan Lingenfelser
Subject: VA0084298 DGIF Coordination Form Mar 2016.doc

Ms. Lingenfelser,

Attached is documentation related to USFWS coordination for the Smith-Midland facility in Midland, Virginia.

Please let me know if you have any questions.

Anna Westernik

Westernik, Anna (DEQ)

From: Aschenbach, Ernie (DGIF)
Sent: Wednesday, August 31, 2016 11:20 AM
To: Westernik, Anna (DEQ)
Cc: ProjectReview (DGIF)
Subject: ESSLog 36480; DEQ VPDES permit VA0084298 reissuance for Smith-Midland Corp in Midland, VA

We have reviewed the above-referenced reissuance for facility with outfall 1 is domestic wastewater treatment plant for employee restrooms. Chlorine disinfection, de-chlorination prior to discharge. The second outfall is industrial process water from concrete production.

Provided adherence to the permit conditions, we do not anticipate the re-issuance of this permit to result in adverse impact to resources under our purview.

Thanks.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
Phone: (804) 367-2733
Email: Ernie.Aschenbach@dgif.virginia.gov

Physical Address: 7870 Villa Park Drive, Suite 400 | Henrico, VA 23228
Mailing Address: P.O. Box 90778 | Henrico, VA 23228-0778

7/29/2016 2:23:16 PM Stats2015
Facility: Smith-Midland Outfall 001
Chemical: Ammonia
Chronic averaging period = 30
WLAa = 30
WLAc =
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics

obsercations = 1
Expected Value = 9.0000
Variance = 29.1595
C.V. = 0.6000
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8545
< Q.L. = 0

Model used: BPJ Assumptions, Type 2 data
Limit needed? : NO
Basis for limits: N/A
Maximum Daily Limit = N/A
Weekly Average Limit = N/A
Monthly Average Limit = N/A

The data are:
9

2/10/2011 4:09:26 PM

Facility = Smith-Midland -- Outfall 001
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 29
WLAc = 37
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

9

2/11/2011 3:51:35 PM

Facility = Smith Midland -- Combined Outfalls
Chemical = TRC
Chronic averaging period = 4
WLAa = 31
WLAc = 25
Q.L. = .2
# samples/mo. = 30
# samples/wk. = 8

Summary of Statistics:

observations = 1
Expected Value = 100
Variance = 3600
C.V. = 0.6
97th percentile daily values = 243.341
97th percentile 4 day average = 166.379
97th percentile 30 day average= 120.605
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 31
Average Weekly limit = 18.4916576629689
Average Monthly LImit = 15.364256079898

The data are:

100

9/13/2016 2:00:08 PM Stats2015
Facility: Smith-Midland Combined Flows
Chemical: TRC
Chronic averaging period = 4
WLAa = 27
WLAc =
Q.L. = 100
# samples/mo. = 30
# samples/wk. = 8

Summary of Statistics

obsercations = 1
Expected Value = 200.0000
Variance = 14,399.7443
C.V. = 0.6000
97th percentile daily values = 486.6819
97th percentile 4 day average = 332.7567
97th percentile 30 day average = 241.2103
< Q.L. = 0

Model used: BPJ Assumptions, Type 2 data
Limit needed? : YES
Basis for limits: Acute Toxicity
Maximum Daily Limit = 27.0000
Weekly Average Limit = 16.1056
Monthly Average Limit = 13.3818

The data are:
200

REGIONAL MODELING SYSTEM

Attachment 14

DATA FILE SUMMA

****

THE NAME OF THE DATA FILE IS: MIDLAND.MOD

THE STREAM NAME IS: Licking Run
THE RIVER BASIN IS: Potomac
THE SECTION NUMBER IS: 7a
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Smith Midland

PROPOSED LIMITS ARE:
FLOW = .0015 MGD
BOD5 = 25 MG/L
TKN = 20 MG/L
D.O. = 6 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

7Q10 WILL BE CALCULATED BY: FLOW COMPARISON
THE GAUGE NAME IS: Cedar Run - Catlett
GAUGE DRAINAGE AREA = 93.4 SQ.MI.
OBSERVED FLOW AT GAUGE = .197 MGD
GAUGE 7Q10 = .197 MGD
OBSERVED FLOW AT DISCHARGE = .197 MGD

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = Y

ALLOCATION DESIGN TEMPERATURE = 25 °C

Attachment 12

SEGMENT INFORMATION

####### SEGMENT # 1 #######

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 3 MI

SEGMENT WIDTH = 3 FT
SEGMENT DEPTH = .3 FT
SEGMENT VELOCITY = .3 FT/SEC

DRAINAGE AREA AT SEGMENT START = 16.7 SQ.MI.
DRAINAGE AREA AT SEGMENT END = 18 SQ.MI.

ELEVATION AT UPSTREAM END = 255 FT
ELEVATION AT DOWNSTREAM END = 235 FT

THE CROSS SECTION IS: WIDE SHALLOW ARC
THE CHANNEL IS: MOSTLY STRAIGHT

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = SILT
SLUDGE DEPOSITS = NONE
AQUATIC PLANTS = NONE
ALGAE OBSERVED = NONE
WATER COLORED GREEN (Y/N) = N

****

REGIONAL MODELING SYSTEM Ver 3.0 (OWRM - 4/90)
07-31-1990 10:53:51

****

REGIONAL MODELING SYSTEM VERSION 3.

****

MODEL SIMULATION FOR THE Smith Midland DISCHARGE

TO Licking Run

COMMENT: Based on min instrm flow 0.305cfs at upstrm dam

THE SIMULATION STARTS AT THE Smith Midland DISCHARGE

********** PROPOSED PERMIT LIMITS **********

FLOW = .0015 MGD cBOD5 = 25 Mg/L TKN = 20 Mg/L D.O. = 6 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 1.456 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

********** BACKGROUND CONDITIONS **********

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.19700 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 7.437 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

********** MODEL PARAMETERS **********

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SA Mg/L
1	3.00	0.319	4.000	1.000	0.350	0.000	245.00	25.00	8.26

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

********** RESPONSE FOR SEGMENT 1 **********

TOTAL STREAMFLOW = 0.1985 MGD
(Including Discharge)

TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	7.426	5.435	0.556
0.100	7.366	5.305	0.551
0.200	7.314	5.179	0.545
0.300	7.270	5.056	0.540
0.400	7.231	5.000	0.535
0.500	7.312	5.000	0.530
0.600	7.385	5.000	0.524
0.700	7.437	5.000	0.519
0.800	7.437	5.000	0.514
0.900	7.437	5.000	0.509
1.000	7.437	5.000	0.504
1.100	7.437	5.000	0.499
1.200	7.437	5.000	0.494
1.300	7.437	5.000	0.489
1.400	7.437	5.000	0.485
1.500	7.437	5.000	0.480
1.600	7.437	5.000	0.475
1.700	7.437	5.000	0.470
1.800	7.437	5.000	0.466
1.900	7.437	5.000	0.461
2.000	7.437	5.000	0.457
2.100	7.437	5.000	0.452
2.200	7.437	5.000	0.448
2.300	7.437	5.000	0.444
2.400	7.437	5.000	0.439
2.500	7.437	5.000	0.435
2.600	7.437	5.000	0.431
2.700	7.437	5.000	0.426
2.800	7.437	5.000	0.422
2.900	7.437	5.000	0.418
3.000	7.437	5.000	0.414

****

REGIONAL MODELING SYSTEM Ver 3.0 (OWRM - 4/90)
07-31-1990 10:59:17

DATA FILE = MIDLAND.MOD

Smith-Midland Groundwater Monitoring Summary

Well BG TDS

Sampling Date	Concentration (mg/L)
12/31/2007	3,444
3/25/2008	5,640
6/19/2008	3,820
9/13/2010	
6/14/2012	1,860
12/18/2012	1,820
6/25/2013	1,600
12/19/2013	1,690
6/13/2014	1,470
12/9/2014	1,530
6/9/2015	1,450
12/7/2015	1,640
6/23/2016	1,480

Well #3 TDS

Sampling Date	Concentration (mg/L)
12/31/2007	2,984
3/25/2008	5,880
6/19/2008	3,560
9/13/2010	5,016
6/14/2012	7,210
12/18/2012	6,860
6/25/2013	7,590
12/19/2013	7,340
6/13/2014	7,760
12/9/2014	7,570
6/9/2015	7,580
12/7/2015	7,310
6/23/2016	7,300

Well BG Specific Conductance

Sampling Date	umhos/c
12/31/2007	5,098
3/25/2008	3,120
6/19/2008	4.58
9/13/2010	
6/14/2012	3,300
12/18/2012	3,550
6/25/2013	2,970
6/13/2014	2600
1/16/2014	3010
12/9/2014	2740
6/9/2015	2820
12/7/2015	2800
6/23/2016	2900

Well #3 Specific Conductance

Sampling Date	umhos/c
12/31/2007	4,376
3/25/2008	3,766
6/19/2008	4.53
9/13/2010	
6/14/2012	13
12/18/2012	12.4
6/25/2013	12.7
6/13/2014	13,200
1/16/2014	13.3
12/9/2014	12,300
6/9/2015	13,300
12/7/2015	13,000
6/23/2016	12,400

Attachment 13

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated municipal and industrial wastewater into a water body in Fauquier County, Virginia.

PUBLIC COMMENT PERIOD: TBD to TBD

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Smith-Midland Corporation
P.O. Box 300
Midland, VA 22728
VA0084298

NAME AND ADDRESS OF FACILITY: Smith-Midland Corporation
5119 Catlett Road
Midland, VA 22728

PROJECT DESCRIPTION: Smith-Midland Corporation has applied for reissuance of a permit for the private Smith-Midland Corporation site. The applicant proposes to release treated sewage at a rate of 0.015 million gallons per day and industrial wastewater at a rate of 0.004 million gallons per day into Licking Run in Fauquier County in the Potomac River Watershed. A watershed is the land area drained by a river and its incoming streams. Sludge from the treatment process will be transferred to the Massaponax Wastewater Treatment Plant for further treatment and management. Solids generated by the acid-washing process are removed from the vaults and disposed of in an approved location (e.g., a landfill). The permit will limit the following pollutants from the sewage treatment plant to amounts that protect water quality: pH, biochemical oxygen demand-5 day, total suspended solids, dissolved oxygen, total residual chlorine, and *E. coli* bacteria. The permit shall also require monitoring for flow, influent biochemical oxygen demand-5 day and influent total suspended solids, ammonia as nitrogen, nitrite+nitrate, total Kjeldahl nitrogen, total nitrogen, and total phosphorus from the sewage treatment plant. The permit will limit the following pollutants from the industrial facility discharge: total suspended solids, pH, total residual chlorine, dissolved oxygen, temperature, and total petroleum hydrocarbons. The permit shall also require monitoring for flow, total dissolved solids, and chemical oxygen demand from the industrial facility discharge.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.
Name: Anna T. Westernik
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov